



SEQUENCE LISTING

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SEP 25 2001
TECH CENTER 1600/2900

<110> Benfey, Phillip N.
Di Laurenzio, Laura
Wysocka-Diller, Joanna
Malamy, Jocelyn E.
Pysh, Leonard
Helariutta, Yrjo
Bruce, Wesley
Lim, Jun

C11 <120> Scarecrow Gene, Promoter and Uses Thereof

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<140> 09/265,585

<141> 1999-03-10

<150> 08/842,445

<151> 1997-04-24

<150> 08/638,617

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Thr	Met	Asn	His	Tyr	Leu	Ala	Val	Phe	Glu	Ser	Ile	Asp	Val	Lys	Leu	195	200	205	

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 245 250 255
 Phe Lys Pro Tyr Pro Leu Ser Ser Tyr Val Asn Ala Thr Ile Lys Gly
 260 265 270
 Leu Leu Glu Ser Tyr Ser Glu Lys Tyr Thr Leu Glu Glu Arg Asp Gly
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Asn	Val	Glu	Gln	Leu	Arg	Val	Lys	Thr	Gly	Glu	Ala	Leu	Ala	Val	Ser	85	90	95	
Ser	Val	Leu	Gln	Leu	His	Thr	Phe	Leu	Ala	Ser	Asp	Asp	Asp	Leu	Met	100	105	110	
Arg	Lys	Asn	Cys	Ala	Leu	Arg	Phe	His	Asn	Asn	Pro	Ser	Gly	Val	Asp	115	120	125	
Leu	Gln	Arg	Val	Leu	Met	Met	Ser	His	Gly	Ser	Ala	Ala	Glu	Ala	Arg	130	135	140	
Glu	Asn	Asp	Met	Ser	Asn	Asn	Gly	Tyr	Ser	Pro	Ser	Gly	Asp	Ser		145	150	155	160

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 tctacagagc attgaaatgc aaagagcctc cttcggatga gaggcttgca gctatgcaag 180
 tcctgtttga agtctgcctt tgtttcaagt tcgggttttt agcagctaag ggtgcgatac 240
 ttgaagcaat caaaggtgaa gaagaagttc acataatcga tttcgatata aaccaaggga 300
 accaatacat gacactgata cgaagcattg ctgagttgcc tggtaaacga cctcgccctga 360
 ggtaaacagg aattgatgac cctgaatcag tccaacgctc cattggaggg ctaagaatca 420
 tcgggtctaag actcgagcaa ctgcagaggg ataatggagt atccttcaaa ttcaaagcaa 480

tgccttcaaa gacttcgatt gtctctccat caacactcgg ttgcaaacca ggagaaacct 540
 taatagtga ctttgcattc caacttcacc acatgcctga cgagagtgtc acaacagtaa 600
 accagcggga cgagctactt cacatgggtca aaagcttaaa cccaaagctt gtcacgggtcg 660
 ttgaacaaga cgtgaacaca aacacttcac cgttctttcc cagattcata gaggcttacg 720
 aatactactc agcagttttc gagtctctag acatgacact tccaagagaa agccaagaga 780
 ggatgaatgt agaaagacag tgtctcgcta gagacatagt caacattggt gcttgcgaaag 840
 gagaagaacg gatagagaga tacgaggctg cgggaaaatg gagagcaagg atgatgatgg 900
 ctggattcaa tccaaaacca atgagtgtcta aagtaaccaa caatatacaa aacctgataa 960
 agcaacaata ttgcaataag tacaagctta aagaagaaat gggtgagctc catttttgct 1020
 gggaggagaa aagcttaatc gttgcttcag cttggaggtta agataagtga caagagcata 1080
 tagtctttat gtttcataaa acataattat gtttttactg taatcttggg ttattgtgta 1140
 actgggttaa tcatctccat gtattattac cagagggttag gggtgatcac aggtactaaa 1200
 agctaatacta acacttatgg aagaattttt ctttcttttt tttccctatt atataaaaat 1260
 aattagagtt ttggttctaa acctatttgc taagtgtgaa tgagtcttta catgttcata 1320
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<210> 23
 <211> 352
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> SITE
 <222> 352
 <223> Xaa = STOP

<400> 23

Leu	Ser	Met	Val	Asn	Glu	Leu	Arg	Gln	Ile	Val	Ser	Ile	Gln	Gly	Asp
1				5					10					15	
Pro	Ser	Gln	Arg	Ile	Ala	Ala	Tyr	Met	Val	Glu	Gly	Leu	Ala	Ala	Arg
			20					25					30		
Met	Ala	Ala	Ser	Gly	Lys	Phe	Ile	Tyr	Arg	Ala	Leu	Lys	Cys	Lys	Glu
		35					40					45			
Pro	Pro	Ser	Asp	Glu	Arg	Leu	Ala	Ala	Met	Gln	Val	Leu	Phe	Glu	Val
	50					55					60				
Cys	Pro	Cys	Phe	Lys	Phe	Gly	Phe	Leu	Ala	Ala	Asn	Gly	Ala	Ile	Leu
65					70					75				80	

Glu	Ala	Ile	Lys	Gly	Glu	Glu	Glu	Val	His	Ile	Ile	Asp	Phe	Asp	Ile	85	90	95	
Asn	Gln	Gly	Asn	Gln	Tyr	Met	Thr	Leu	Ile	Arg	Ser	Ile	Ala	Glu	Leu	100	105	110	
Pro	Gly	Lys	Arg	Pro	Arg	Leu	Arg	Leu	Thr	Gly	Ile	Asp	Asp	Pro	Glu	115	120	125	
Ser	Val	Gln	Arg	Ser	Ile	Gly	Gly	Leu	Arg	Ile	Ile	Asn	Leu	Arg	Leu	130	135	140	
Glu	Gln	Leu	Ala	Glu	Asp	Asn	Gly	Val	Ser	Phe	Lys	Phe	Lys	Ala	Met	145	150	155	160
Pro	Ser	Lys	Thr	Ser	Ile	Val	Ser	Pro	Ser	Thr	Leu	Gly	Cys	Lys	Pro	165	170	175	
Gly	Glu	Thr	Leu	Ile	Val	Asn	Phe	Ala	Phe	Gln	Leu	His	His	Met	Pro	180	185	190	
Asp	Glu	Ser	Val	Thr	Thr	Val	Asn	Gln	Arg	Asp	Glu	Leu	Leu	His	Met	195	200	205	
Val	Lys	Ser	Leu	Asn	Pro	Leu	Val	Thr	Val	Val	Glu	Gln	Asp	Val	Asn	210	215	220	
Thr	Asn	Thr	Ser	Pro	Phe	Phe	Pro	Arg	Phe	Ile	Glu	Ala	Tyr	Glu	Tyr	225	230	235	240
Tyr	Ser	Ala	Val	Phe	Glu	Ser	Leu	Asp	Met	Thr	Leu	Pro	Arg	Glu	Ser	245	250	255	
Gln	Glu	Arg	Met	Asn	Val	Glu	Arg	Gln	Cys	Leu	Ala	Arg	Asp	Ile	Val	260	265	270	
Asn	Ile	Val	Ala	Cys	Glu	Gly	Glu	Glu	Arg	Ile	Glu	Arg	Tyr	Glu	Ala	275	280	285	
Ala	Gly	Lys	Trp	Arg	Ala	Arg	Met	Met	Met	Ala	Gly	Phe	Asn	Pro	Lys	290	295	300	
Pro	Met	Ser	Ala	Lys	Val	Thr	Asn	Asn	Ile	Gln	Asn	Leu	Ile	Lys	Gln	305	310	315	320
Gln	Tyr	Cys	Asn	Lys	Tyr	Lys	Leu	Lys	Glu	Glu	Met	Gly	Glu	Leu	His	325	330	335	
Phe	Cys	Trp	Glu	Glu	Lys	Ser	Leu	Ile	Val	Ala	Ser	Ala	Trp	Arg	Xaa	340	345	350	

<210> 24
 <211> 100
 <212> DNA
 <213> Zea mays

<400> 24

ccaggaggcg ttcgagcggg aggagcgtgt gcacatcatc gacctcgaca tcatgcaggg 60
gctgcagtgg ccgggcctcc tccacatcct tgcctcccgc 100

<210> 25

<211> 33

<212> PRT

<213> Zea mays

<400> 25

Gln	Glu	Ala	Phe	Glu	Arg	Glu	Glu	Arg	Val	His	Ile	Ile	Asp	Leu	Asp
1				5					10					15	
Ile	Met	Gln	Gly	Leu	Gln	Trp	Pro	Gly	Leu	Phe	His	Ile	Leu	Ala	Ser
			20					25					30		

Arg

<210> 26

<211> 1094

<212> DNA

<213> Zea mays

<400> 26

ccacgcgtcc gtcaaaggat acaaccatgt acacataatt gacttttccc tgatgcaagg 60
tctccagtgg ccggcactca tggatgtctt ctccgcccgt gagggtgggc caccaaagct 120
ccgaatcaca ggcataggcc cgaacccaat aggtggccgt gacgagctcc atgaagtggg 180
aattcgccctc gccaaagtatg cacactcggg gggatatcgac ttcactttcc agggagtctg 240
tgtcgatcaa cttgataggt tgtgcgactg gatgcttctc aaaccaatca aaggagaggc 300
agttgccata aactccatcc tacaactcca tcgcctcctc gttgaccag atgcaaacc 360
agtggtgccc gcaccaatag atatcctcct caaattgggtc atcaagataa accccatgat 420
cttcacgggtg gttgagcatg aggcagatca caacagacca ccactactag agagggttcac 480
taatgcctc ttccactatg cgaccatgtt tgactctttg gaggccatgc atcggtgtac 540
cagtggtaga gacatcacccg actcactcac agagggtgtac cttcgagggtg agatttttga 600
cattgtctgc ggcgagggca gtgcacgcac cgaacgtcat gagttgtttg gtcactggag 660
ggagagggtc acctatgctg ggctaactca agtgtgggtc gacccgatg aggttgacac 720
gctaaaagac cagttgatcc atgtgacatc cttatctggc tctgggttca acatcctagt 780
gtgtgatggc agccttgac tagcgtggca taatcgccc ttatatgtgg caacagcttg 840

gtgtgtgaca ggaggaaatg ctgccagttc catggttggc aacatctgta aggggtacaaa 900
 tgatagtaga agaaaggaaa accgtaatgg acccatggag tagcaggaag aataaccatg 960
 tcattgagcaa atcgatcaag taataaaatg cactgatgac atgcatgggtg atctaaagtt 1020
 tttttgcgtg aatgtgcaat gacgaattgt tcaatttgaa taacctaatac atgagactca 1080
 aaaaaaaaaa aaaa 1094

<210> 27
 <211> 314
 <212> PRT
 <213> Zea mays

<220>
 <221> SITE
 <222> 314
 <223> Xaa = STOP

<400> 27

His	Ala	Ser	Val	Lys	Gly	Tyr	Asn	His	Val	His	Ile	Ile	Asp	Phe	Ser	1	5	10	15
Leu	Met	Gln	Gly	Leu	Gln	Trp	Pro	Ala	Leu	Met	Asp	Val	Phe	Ser	Ala	20	25	30	
Arg	Glu	Gly	Gly	Pro	Pro	Lys	Leu	Arg	Ile	Thr	Gly	Ile	Gly	Pro	Asn	35	40	45	
Pro	Ile	Gly	Gly	Arg	Asp	Glu	Leu	His	Glu	Val	Gly	Ile	Arg	Leu	Ala	50	55	60	
Lys	Tyr	Ala	His	Ser	Val	Gly	Ile	Asp	Phe	Thr	Phe	Gln	Gly	Val	Cys	65	70	75	80
Val	Asp	Gln	Leu	Asp	Arg	Leu	Cys	Asp	Trp	Met	Leu	Leu	Lys	Pro	Ile	85	90	95	
Lys	Gly	Glu	Ala	Val	Ala	Ile	Asn	Ser	Ile	Leu	Gln	Leu	His	Arg	Leu	100	105	110	
Leu	Val	Asp	Pro	Asp	Ala	Asn	Pro	Val	Val	Pro	Ala	Pro	Ile	Asp	Ile	115	120	125	
Leu	Leu	Lys	Leu	Val	Ile	Lys	Ile	Asn	Pro	Met	Ile	Phe	Thr	Val	Val	130	135	140	
Glu	His	Glu	Ala	Asp	His	Asn	Arg	Pro	Pro	Leu	Leu	Glu	Arg	Phe	Thr	145	150	155	160
Asn	Ala	Leu	Phe	His	Tyr	Ala	Thr	Met	Phe	Asp	Ser	Leu	Glu	Ala	Met				

165	170	175
His Arg Cys Thr Ser Gly Arg Asp	Ile Thr Asp Ser Leu Thr Glu Val	
180	185	190
Tyr Leu Arg Gly Glu Ile Phe Asp	Ile Val Cys Gly Glu Gly Ser Ala	
195	200	205
Arg Thr Glu Arg His Glu Leu Phe Gly His Trp Arg Glu Arg Leu Thr		
210	215	220
Tyr Ala Gly Leu Thr Gln Val Trp Phe Asp Pro Asp Glu Val Asp Thr		
225	230	235
Leu Lys Asp Gln Leu Ile His Val Thr Ser Leu Ser Gly Ser Gly Phe		
245	250	255
Asn Ile Leu Val Cys Asp Gly Ser Leu Ala Leu Ala Trp His Asn Arg		
260	265	270
Pro Leu Tyr Val Ala Thr Ala Trp Cys Val Thr Gly Gly Asn Ala Ala		
275	280	285
Ser Ser Met Val Gly Asn Ile Cys Lys Gly Thr Asn Asp Ser Arg Arg		
290	295	300
Lys Glu Asn Arg Asn Gly Pro Met Glu Xaa		
305	310	

<210> 28
 <211> 611
 <212> DNA
 <213> Oryza sativa

<400> 28

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cccaacttgg gaagcccttc ctccgctccg cctcctacct caaggaggcc ctccctctcg 60
cactcgccga cagccaccat ggctcctccg gcgtcacctc gccgctcgac gttgccctca 120
agcttgcagc atacaagtct ttctctgacc tgtcacctgt gctccagttc actaacttta 180
ccgcaacaag gcgcttcttg atgagattgg tggcatggca acttcctgca tccatgtcat 240
tgactttgat ctcggtgttg gtggtcagtg ggcttccttc ttgcaggagc ttgcccaccg 300
ccggggagct ggaggtatgg ccttgccgtt gttgaagctc acggctttca tgtcgactgc 360
ttctcaccat ccaactggagc tgcaccttac ccaggataac ctctctcagt ttgccgcaga 420
gctcagaatt cctttcgaat tcaatgccgt cagtcttgat gcattcaatc ctgcggaatc 480
tatttcttcc tctggtgatg aagttgttgc tgtagcctc cctggtggct gctctgctcg 540
tgcaccaccg ctgccagcga ttcttcgggt ggtgaaacag ctttgctcta aggttgctcg 600
ggctattgat c
  
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611

<210> 29
 <211> 502
 <212> DNA
 <213> *Oryza sativa*

<400> 29

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tttttttttt tttttttttt tttttttttt tacagagcaa cagcagtata atattaattc 60
tgtaccacac aaccatttga taggttaa ataccctctag tctctactca taagcagtgt 120
ttccaatgag atgatcatgg ctaattgagc agagcatggc aacaacctaa agcaacatca 180
ttagctatag agactgacac caatattcct aaatccacta ggctagctaa taagctgcaa 240
cgaaaagcaa tatgaagagt tcaacagctc aagacaacaa tttcatttgc aacattta at 300
tgcaagaata aatggacatt actggagtgg tcgatgcttg caaacgggtg tggaaccttg 360
gtggagtgaa gcttatggct gatcagcacc gccaaagatga tatggataca agctccccac 420
gctgccagta gagcgtaaga gcagctccgc gtttctccac atggaatcct cggacctgca 480
cccgcttcag gaggcagtct gc 502

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<210> 30
 <211> 298
 <212> PRT
 <213> *Arabidopsis thaliana*

<400> 30

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Pro Gln Gln Gln Gln Gln His Gln Gln Gln Gln Gln Gln His Lys Pro
  1             5             10             15
Pro Pro Pro Pro Ile Gln Gln Gln Glu Arg Glu Asn Ser Ser Thr Asp
          20             25             30
Ala Pro Pro Gln Pro Glu Thr Val Thr Ala Thr Val Pro Ala Val Gln
          35             40             45
Thr Asn Thr Ala Glu Ala Leu Arg Glu Arg Lys Glu Glu Ile Lys Arg
          50             55             60
Gln Lys Gln Asp Glu Glu Gly Leu His Leu Leu Thr Leu Leu Leu Gln
          65             70             75             80
Cys Ala Glu Ala Val Ser Ala Asp Asn Leu Glu Glu Ala Asn Lys Leu
          85             90             95
Leu Leu Glu Ile Ser Gln Leu Ser Thr Pro Tyr Gly Thr Ser Ala Gln
          100            105            110

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Arg Val Ala Ala Tyr Phe Ser Glu Ala Met Ser Ala Arg Leu Leu Asn
 115 120 125
 Ser Cys Leu Gly Ile Tyr Ala Ala Leu Pro Ser Arg Trp Met Pro Gln
 130 135 140
 Thr His Ser Leu Lys Met Val Ser Ala Phe Gln Val Phe Asn Gly Ile
 145 150 155 160
 Ser Pro Leu Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala Ile Gln
 165 170 175
 Glu Ala Phe Glu Lys Glu Asp Ser Val His Ile Ile Asp Leu Asp Ile
 180 185 190
 Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg
 195 200 205
 Pro Gly Gly Pro Pro His Val Arg Leu Thr Gly Leu Gly Thr Ser Met
 210 215 220
 Glu Ala Leu Gln Ala Thr Gly Lys Arg Leu Ser Asp Phe Thr Asp Lys
 225 230 235 240
 Leu Gly Leu Pro Phe Glu Phe Cys Pro Leu Ala Glu Lys Val Gly Asn
 245 250 255
 Asp Leu Thr Glu Arg Leu Asn Val Arg Lys Arg Glu Ala Ala Val His
 260 265 270
 Trp Leu Gln His Ser Leu Tyr Asp Val Thr Gly Ser Asp Ala His Thr
 275 280 285
 Leu Trp Leu Leu Gln Arg Leu Ala Pro Lys
 290 295

<210> 31
 <211> 307
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> SITE
 <222> 307
 <223> Xaa = STOP

<400> 31

Gly Thr Ser Pro Thr Gly Pro Glu Leu Leu Thr Tyr Met His Ile Leu
 1 5 10 15
 Tyr Glu Ala Cys Pro Tyr Phe Lys Phe Gly Tyr Glu Ser Ala Asn Gly
 20 25 30
 Ala Ile Ala Glu Ala Val Lys Asn Glu Ser Phe Val His Ile Ile Asp
 35 40 45

Phe Gln Ile Ser Gln Gly Gly Gln Trp Val Ser Leu Ile Arg Ala Leu
50 55 60
Gly Ala Arg Pro Gly Gly Pro Pro Asn Val Arg Ile Thr Gly Ile Asp
65 70 75 80
Asp Pro Arg Ser Ser Phe Ala Arg Gln Gly Gly Leu Glu Leu Val Gly
85 90 95
Gln Arg Leu Gly Lys Leu Ala Glu Met Cys Gly Val Pro Phe Glu Phe
100 105 110
His Gly Ala Ala Leu Cys Cys Thr Glu Val Glu Ile Glu Lys Leu Gly
115 120 125
Val Arg Asn Gly Glu Ala Leu Ala Val Asn Phe Pro Leu Val Leu His
130 135 140
His Met Pro Asp Glu Ser Val Thr Val Glu Asn His Arg Asp Arg Leu
145 150 155 160
Leu Arg Leu Val Lys His Leu Ser Pro Asn Val Val Thr Leu Val Glu
165 170 175
Gln Glu Ala Asn Thr Asn Thr Ala Pro Phe Leu Pro Arg Phe Val Glu
180 185 190
Thr Met Asn His Tyr Leu Ala Val Phe Glu Ser Ile Asp Val Lys Leu
195 200 205
Ala Arg Asp His Lys Glu Arg Ile Asn Val Glu Gln His Cys Leu Ala
210 215 220
Arg Glu Val Val Asn Leu Ile Ala Cys Glu Gly Val Glu Arg Glu Glu
225 230 235 240
Arg His Glu Pro Leu Gly Lys Trp Arg Ser Arg Phe His Met Ala Gly
245 250 255
Phe Lys Pro Tyr Pro Leu Ser Ser Tyr Val Asn Ala Thr Ile Lys Gly
260 265 270
Leu Leu Glu Ser Tyr Ser Glu Lys Tyr Thr Leu Glu Glu Arg Asp Gly
275 280 285
Ala Leu Tyr Leu Gly Trp Lys Asn Gln Pro Leu Ile Thr Ser Cys Ala
290 295 300
Trp Arg Xaa
305

<210> 32
<211> 353
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE

<222> 353
<223> Xaa = STOP

<400> 32

Leu	Ser	Met	Val	Asn	Glu	Leu	Arg	Gln	Ile	Val	Ser	Ile	Gln	Gly	Asp	
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Pro	Ser	Gln	Arg	Ile	Ala	Ala	Tyr	Met	Val	Glu	Gly	Leu	Ala	Ala	Arg	
			20					25					30			
Met	Ala	Ala	Ser	Gly	Lys	Phe	Ile	Tyr	Arg	Ala	Leu	Lys	Cys	Lys	Glu	
		35					40					45				
Pro	Pro	Ser	Asp	Glu	Arg	Leu	Ala	Ala	Met	Gln	Val	Leu	Phe	Glu	Val	
	50					55					60					
Cys	Pro	Cys	Phe	Lys	Phe	Gly	Phe	Leu	Ala	Ala	Asn	Gly	Ala	Ile	Leu	
65					70					75					80	
Glu	Ala	Ile	Lys	Gly	Glu	Glu	Glu	Val	His	Ile	Ile	Asp	Phe	Asp	Ile	
				85					90					95		
Asn	Gln	Gly	Asn	Gln	Tyr	Met	Thr	Leu	Ile	Arg	Ser	Ile	Ala	Glu	Leu	
			100					105					110			
Pro	Gly	Lys	Arg	Pro	Arg	Leu	Arg	Leu	Thr	Gly	Ile	Asp	Asp	Pro	Glu	
		115					120					125				
Ser	Val	Gln	Arg	Ser	Ile	Gly	Gly	Leu	Arg	Ile	Ile	Gly	Leu	Arg	Leu	
	130					135					140					
Glu	Gln	Leu	Ala	Glu	Asp	Asn	Gly	Val	Ser	Phe	Lys	Phe	Lys	Ala	Met	
145					150					155					160	
Pro	Ser	Lys	Thr	Ser	Ile	Val	Ser	Pro	Ser	Thr	Leu	Gly	Cys	Lys	Pro	
				165				170						175		
Gly	Glu	Thr	Leu	Ile	Val	Asn	Phe	Ala	Phe	Gln	Leu	His	His	Met	Pro	
			180					185					190			
Asp	Glu	Ser	Val	Thr	Thr	Val	Asn	Gln	Arg	Asp	Glu	Leu	Leu	His	Met	
		195					200					205				
Val	Lys	Ser	Leu	Asn	Pro	Lys	Leu	Val	Thr	Val	Val	Glu	Gln	Asp	Val	
	210					215					220					
Asn	Thr	Asn	Thr	Ser	Pro	Phe	Phe	Pro	Arg	Phe	Ile	Glu	Ala	Tyr	Glu	
225					230					235					240	
Tyr	Tyr	Ser	Ala	Val	Phe	Glu	Ser	Leu	Asp	Met	Thr	Leu	Pro	Arg	Glu	
			245						250					255		
Ser	Gln	Glu	Arg	Met	Asn	Val	Glu	Arg	Gln	Cys	Leu	Ala	Arg	Asp	Ile	
			260					265					270			
Val	Asn	Ile	Val	Ala	Cys	Glu	Gly	Glu	Glu	Arg	Ile	Glu	Arg	Tyr	Glu	
		275					280					285				

Ala Ala Gly Lys Trp Arg Ala Arg Met Met Met Ala Gly Phe Asn Pro
290 295 300

Lys Pro Met Ser Ala Lys Val Thr Asn Asn Ile Gln Asn Leu Ile Lys
305 310 315 320

Gln Gln Tyr Cys Asn Lys Tyr Lys Leu Lys Glu Glu Met Gly Glu Leu
325 330 335

His Phe Cys Trp Glu Glu Lys Ser Leu Ile Val Ala Ser Ala Trp Arg
340 345 350

Xaa

<210> 33
<211> 326
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> 326
<223> Xaa = STOP

<400> 33

Ala Met Glu Gly Glu Lys Met Val His Val Ile Asp Leu Asp Ala Ser
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Glu Pro Ala Gln Trp Leu Ala Leu Leu Gln Ala Phe Asn Ser Arg Pro
20 25 30

Glu Gly Pro Pro His Leu Arg Ile Thr Gly Val His His Gln Lys Glu
35 40 45

Val Leu Glu Gln Met Ala His Arg Leu Ile Glu Glu Ala Glu Lys Leu
50 55 60

Asp Ile Pro Phe Gln Phe Asn Pro Val Val Ser Arg Leu Asp Cys Leu
65 70 75 80

Asn Val Glu Gln Leu Arg Val Lys Thr Gly Glu Ala Leu Ala Val Ser
85 90 95

Ser Val Leu Gln Leu His Thr Phe Leu Ala Ser Asp Asp Asp Leu Met
100 105 110

Arg Lys Asn Cys Ala Leu Arg Phe Gln Asn Asn Pro Ser Gly Val Asp
115 120 125

Leu Gln Arg Val Leu Met Met Ser His Gly Ser Ala Ala Glu Ala Arg
130 135 140

Glu Asn Asp Met Ser Asn Asn Asn Gly Tyr Ser Pro Ser Gly Asp Ser
145 150 155 160

Ala Ser Ser Leu Pro Leu Pro Ser Ser Gly Arg Thr Asp Ser Phe Leu
 165 170 175
 Asn Ala Ile Trp Gly Leu Ser Pro Lys Val Met Val Val Thr Glu Gln
 180 185 190
 Asp Ser Asp His Asn Gly Ser Thr Leu Met Glu Arg Leu Leu Glu Ser
 195 200 205
 Leu Tyr Thr Tyr Ala Ala Leu Phe Asp Cys Leu Glu Thr Lys Val Pro
 210 215 220
 Arg Thr Ser Gln Asp Arg Ile Lys Val Glu Lys Met Leu Phe Gly Glu
 225 230 235 240
 Glu Ile Lys Asn Ile Ile Ser Cys Glu Gly Phe Glu Arg Arg Glu Arg
 245 250 255
 His Glu Lys Leu Glu Lys Trp Ser Gln Arg Ile Asp Leu Ala Gly Phe
 260 265 270
 Gly Asn Val Pro Leu Ser Tyr Tyr Ala Met Leu Gln Ala Arg Arg Leu
 275 280 285
 Leu Gln Gly Cys Gly Phe Asp Gly Tyr Arg Ile Lys Glu Glu Ser Gly
 290 295 300
 Cys Ala Val Ile Cys Trp Gln Asp Arg Pro Leu Tyr Ser Val Ser Ala
 305 310 315 320
 Trp Arg Cys Arg Lys Xaa
 325

<210> 34
 <211> 588
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> SITE
 <222> 134, 144, 430, 450, 452, 467, 477, 484, 495, 499
 <223> Xaa = Any amino acid

<220>
 <221> SITE
 <222> 444, 588
 <223> Xaa = STOP

<400> 34
 Pro Met Lys Arg Asp His His Gln Phe Gln Gly Arg Leu Ser Asn His
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 Gly Thr Ser Ser Ser Ser Ser Ser Ile Ser Lys Asp Lys Met Met Met
 20 25 30
 Val Lys Lys Glu Glu Asp Gly Gly Gly Asn Met Asp Asp Glu Leu Leu
 35 40 45
 Ala Val Leu Gly Tyr Lys Val Arg Ser Ser Glu Met Ala Glu Val Ala

50						55					60					
Leu	Lys	Leu	Glu	Gln	Leu	Glu	Thr	Met	Met	Ser	Asn	Ala	Gln	Glu	Asp	
65					70					75					80	
Gly	Leu	Ser	His	Leu	Ala	Thr	Asp	Ala	Ala	His	Tyr	Asn	Pro	Ser	Glu	
				85						90					95	
Leu	Tyr	Ser	Trp	Leu	Asp	Met	Asn	Leu	Ser	Glu	Leu	Asn	Pro	Pro	Pro	
			100					105					110			
Leu	Pro	Ala	Ser	Ser	Asn	Gly	Leu	Asp	Pro	Val	Leu	Pro	Ser	Pro	Glu	
		115					120					125				
Ile	Cys	Gly	Phe	Pro	Xaa	Ser	Asp	Tyr	Asp	Leu	Lys	Val	Ile	Pro	Xaa	
130						135						140				
Asn	Ala	Ile	Tyr	Gln	Phe	Pro	Ala	Ile	Asp	Ser	Ser	Ser	Ser	Asn	Asn	
145					150					155					160	
Gln	Asn	Lys	Arg	Leu	Lys	Ser	Cys	Ser	Ser	Pro	Asp	Ser	Met	Val	Thr	
				165						170					175	
Ser	Thr	Ser	Thr	Gly	Thr	Gln	Ile	Gly	Gly	Val	Ile	Gly	Thr	Thr	Val	
			180					185								
Thr	Thr	Thr	Thr	Thr	Thr	Thr	Thr	Ala	Ala	Ala	Glu	Ser	Thr	Arg	Ser	
			195					200					205			
Val	Ile	Leu	Val	Asp	Ser	Gln	Glu	Asn	Gly	Val	Arg	Leu	Val	His	Ala	
210						215					220					
Leu	Met	Ala	Cys	Ala	Glu	Ala	Ile	Gln	Gln	Asn	Asn	Leu	Thr	Leu	Ala	
225					230					235					240	
Glu	Ala	Leu	Val	Lys	Gln	Ile	Gly	Cys	Leu	Ala	Val	Ser	Gln	Ala	Gly	
				245						250					255	
Ala	Met	Arg	Lys	Val	Ala	Thr	Tyr	Phe	Ala	Glu	Ala	Leu	Ala	Arg	Arg	
			260					265						270		
Ile	Tyr	Arg	Leu	Ser	Pro	Pro	Gln	Asn	Gln	Ile	Asp	His	Cys	Leu	Ser	
		275					280						285			
Asp	Thr	Leu	Gln	Met	His	Phe	Tyr	Glu	Thr	Cys	Pro	Tyr	Leu	Lys	Phe	
290						295					300					
Ala	His	Phe	Thr	Ala	Asn	Gln	Ala	Ile	Leu	Glu	Ala	Phe	Glu	Gly	Lys	
305					310						315				320	
Lys	Arg	Val	His	Val	Ile	Asp	Phe	Ser	Met	Asn	Gln	Gly	Leu	Gln	Trp	
				325						330					335	
Pro	Ala	Leu	Met	Gln	Ala	Leu	Ala	Leu	Arg	Glu	Gly	Gly	Pro	Pro	Thr	
			340					345					350			
Phe	Arg	Leu	Thr	Gly	Ile	Gly	Pro	Pro	Ala	Pro	Asp	Asn	Ser	Asp	His	
		355					360						365			
Leu	His	Glu	Val	Gly	Cys	Lys	Leu	Ala	Gln	Leu	Ala	Glu	Ala	Ile	His	
370						375						380				
Val	Glu	Phe	Glu	Tyr	Arg	Gly	Phe	Val	Ala	Asn	Ser	Leu	Ala	Asp	Leu	
385					390						395				400	
Asp	Ala	Ser	Met	Leu	Glu	Leu	Arg	Pro	Ser	Asp	Thr	Glu	Ala	Val	Ala	
				405						410					415	
Val	Asn	Ser	Val	Phe	Glu	Leu	His	Lys	Leu	Leu	Gly	Arg	Xaa	Gly	Gly	
			420							425				430		
Ile	Glu	Lys	Val	Leu	Gly	Val	Val	Lys	Gln	Asp	Xaa	Thr	Gly	Asp	Phe	
		435					440						445			
His	Xaa	Trp	Xaa	Arg	Gln	Glu	Pro	Asn	His	Asn	Gly	Pro	Gly	Phe	Leu	
450						455						460				
Asp	Gly	Xaa	Thr	Glu	Ser	Leu	His	Thr	Thr	Ser	Thr	Xaa	Phe	Asp	Ser	
465					470						475				480	
Leu	Glu	Gly	Xaa	Pro	Asn	Ser	Gln	Asp	Lys	Leu	Met	Ser	Glu	Xaa	Tyr	
				485						490					495	
Leu	Gly	Xaa	Gln	Ile	Cys	Asn	Leu	Val	Ala	Cys	Glu	Gly	Pro	Asp	Arg	
			500					505						510		
Val	Glu	Arg	His	Glu	Thr	Leu	Ser	Gln	Trp	Gly	Asn	Arg	Phe	Gly	Ser	

	515		520		525										
Ser	Gly	Leu	Ala	Pro	Ala	His	Leu	Gly	Ser	Asn	Ala	Phe	Lys	Gln	Ala
	530					535					540				
Ser	Met	Leu	Leu	Ser	Val	Phe	Asn	Ser	Gly	Gln	Tyr	Arg	Val	Glu	Glu
545					550					555					560
Ser	Asn	Gly	Cys	Leu	Met	Leu	Gly	Trp	His	Thr	Arg	Pro	Leu	Ile	Thr
				565					570					575	
Thr	Ser	Ala	Trp	Lys	Leu	Ser	Thr	Ala	Ala	His	Xaa				
			580					585							

<210> 35
 <211> 524
 <212> PRT
 <213> Arabidopsis thaliana

<400> 35

Met	Lys	Arg	Asp	His	His	His	His	His	Gln	Asp	Lys	Lys	Thr	Met	Met
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Met	Asn	Glu	Glu	Asp	Asp	Gly	Asn	Gly	Met	Asp	Glu	Leu	Leu	Ala	Val
			20					25					30		
Leu	Gly	Tyr	Lys	Val	Arg	Ser	Ser	Glu	Met	Ala	Asp	Val	Ala	Gln	Lys
	35					40						45			
Leu	Glu	Val	Met	Met	Ser	Asn	Val	Gln	Glu	Asp	Asp	Leu	Ser	Leu	Ala
	50					55				60					
Thr	Glu	Thr	Val	His	Tyr	Asn	Pro	Ala	Glu	Leu	Trp	Leu	Asp	Ser	Met
65				70					75						80
Leu	Thr	Asp	Leu	Asn	Pro	Pro	Ser	Ser	Asn	Ala	Glu	Tyr	Asp	Leu	Lys
				85					90					95	
Ala	Ile	Pro	Gly	Asp	Ile	Leu	Asn	Gln	Phe	Ala	Ile	Asp	Ser	Ala	Ser
			100					105					110		
Ser	Ser	Asn	Gln	Gly	Gly	Gly	Gly	Asp	Thr	Tyr	Thr	Thr	Asn	Lys	Arg
		115					120					125			
Leu	Lys	Cys	Ser	Asn	Gly	Val	Val	Glu	Thr	Thr	Thr	Ala	Thr	Ala	Glu
	130					135					140				
Ser	Thr	Arg	His	Val	Val	Leu	Val	Asp	Ser	Gln	Glu	Asn	Gly	Val	Arg
145				150					155						160
Leu	Val	His	Ala	Leu	Leu	Ala	Cys	Ala	Glu	Ala	Val	Gln	Lys	Glu	Asn
				165					170					175	
Leu	Thr	Val	Ala	Glu	Ala	Leu	Val	Lys	Gln	Ile	Gly	Phe	Leu	Ala	Val
			180					185					190		
Ser	Gln	Ile	Gly	Ala	Met	Arg	Gln	Val	Ala	Thr	Tyr	Phe	Ala	Glu	Ala
	195						200					205			
Leu	Ala	Arg	Arg	Ile	Tyr	Arg	Leu	Ser	Pro	Ser	Gln	Ser	Pro	Ile	Asp
	210					215					220				
His	Ser	Leu	Ser	Asp	Thr	Leu	Gln	Met	His	Phe	Tyr	Glu	Thr	Cys	Pro
225				230					235					240	
Tyr	Leu	Lys	Phe	Ala	His	Phe	Thr	Ala	Asn	Gln	Ala	Ile	Leu	Glu	Ala
				245					250					255	
Phe	Gln	Gly	Lys	Lys	Arg	Val	His	Val	Ile	Asp	Phe	Ser	Met	Ser	Gln
			260					265					270		
Gly	Leu	Gln	Trp	Pro	Ala	Leu	Met	Gln	Ala	Leu	Ala	Leu	Arg	Pro	Gly
			275				280					285			
Gly	Pro	Pro	Val	Phe	Arg	Leu	Thr	Gly	Ile	Gly	Pro	Pro	Ala	Pro	Asp
	290					295					300				
Asn	Phe	Asp	Tyr	Leu	His	Glu	Val	Gly	Cys	Lys	Leu	Ala	His	Leu	Ala
305				310						315					320
Glu	Ala	Ile	His	Val	Glu	Phe	Glu	Tyr	Arg	Gly	Phe	Val	Ala	Asn	Thr
				325					330					335	

Leu Ala Asp Leu Asp Ala Ser Met Leu Glu Leu Arg Pro Ser Glu Ile
 340 345 350
 Glu Ser Val Ala Val Asn Ser Val Phe Glu Leu His Lys Leu Leu Gly
 355 360 365
 Arg Pro Gly Ala Ile Asp Lys Val Leu Gly Val Val Asn Gln Ile Lys
 370 375 380
 Pro Glu Ile Phe Thr Val Val Glu Gln Glu Ser Asn His Asn Ser Pro
 385 390 395 400
 Ile Phe Leu Asp Arg Phe Thr Glu Ser Leu His Tyr Tyr Ser Thr Leu
 405 410 415
 Phe Asp Ser Leu Gly Val Pro Asn Ser Gln Asp Lys Val Met Ser Glu
 420 425 430
 Val Tyr Leu Gly Lys Gln Ile Cys Asn Val Val Ala Cys Asp Gly Pro
 435 440 445
 Asp Arg Val Glu Arg His Glu Thr Leu Ser Gln Trp Arg Asn Arg Phe
 450 455 460
 Gly Ser Ala Gly Phe Ala Ala Ala His Ile Gly Ser Asn Ala Phe Lys
 465 470 475 480
 Gln Ala Ser Met Leu Leu Ala Leu Phe Asn Gly Gly Glu Gly Tyr Arg
 485 490 495
 Val Glu Glu Ser Asp Gly Cys Leu Met Leu Gly Trp His Thr Arg Pro
 500 505 510
 Leu Ile Ala Thr Ser Ala Trp Lys Leu Ser Thr Asn
 515 520

<210> 36
 <211> 310
 <212> PRT
 <213> Oryza sativa

<220>
 <221> SITE
 <222> 310
 <223> Xaa = STOP

<400> 36
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 20 25 30
 Ser Pro Leu Asp Val Ala Leu Lys Leu Ala Ala Tyr Lys Ser Phe Ser
 35 40 45
 Asp Leu Ser Pro Val Leu Gln Phe Thr Asn Phe Thr Ala Asn Lys Ala
 50 55 60
 Leu Leu Asp Glu Ile Gly Gly Met Ala Thr Ser Cys Ile His Val Ile
 65 70 75 80
 Asp Phe Asn Leu Gly Val Gly Gly Gln Trp Ala Ser Phe Leu Gln Glu
 85 90 95
 Leu Ala His Arg Arg Gly Ala Gly Gly Met Ala Leu Pro Leu Leu Lys
 100 105 110
 Leu Thr Ala Phe Met Ser Thr Ala Ser His His Pro Leu Glu Leu His
 115 120 125
 Leu Thr Gln Asp Asn Leu Ser Gln Phe Ala Ala Glu Leu Arg Ile Pro
 130 135 140
 Phe Glu Phe Asn Ala Val Ser Leu Asp Ala Phe Asn Pro Ala Glu Ser
 145 150 155 160
 Ile Ser Ser Ser Gly Asp Glu Val Val Ala Val Ser Leu Pro Val Gly

210 215 220
 Ala Gly Leu Thr Gln Val Trp Phe Asp Pro Asp Glu Val Asp Thr Leu
 225 230 235 240
 Lys Asp Gln Leu Ile His Val Thr Ser Leu Ser Gly Ser Gly Phe Asn
 245 250 255
 Ile Leu Val Cys Asp Gly Ser Leu Ala Leu Ala Trp His Asn Arg Pro
 260 265 270
 Leu Tyr Val Ala Thr Ala Trp Cys Val Thr Gly Gly Asn Ala Ala Ser
 275 280 285
 Ser Met Val Gly Asn Ile Cys Lys Gly Thr Asn Asp Ser Arg Arg Lys
 290 295 300
 Glu Asn Arg Asn Gly Pro Met Glu Xaa
 305 310

<210> 38
 <211> 33
 <212> PRT
 <213> Zea mays

<400> 38

Gln Glu Ala Phe Glu Arg Glu Glu Arg Val His Ile Ile Asp Leu Asp
 1 5 10 15
 Ile Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser
 20 25 30

Arg

<210> 39
 <211> 29
 <212> PRT
 <213> Zea mays

<220>
 <221> SITE
 <222> 1...29
 <223> Xaa=unknown amino acid

<400> 39

Phe Ala Gly Cys Arg Arg Val His Val Val Asp Phe Gly Ile Lys Gln
 1 5 10 15
 Gly Met Gln Trp Pro Ala Leu Leu Xaa Asp Leu Ala Leu
 20 25

<210> 40
 <211> 73
 <212> PRT
 <213> Homo sapiens

<220>
 <221> SITE
 <222> 1...73

<223> Xaa=unknown amino acid

<400> 40

Gly	Arg	Asn	Gly	Arg	Thr	Leu	Trp	Leu	Gly	Glu	Gly	His	Ile	Asp	Leu
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Trp	Pro	Leu	Gln	Gly	Leu	Leu	Ser	Gln	Gly	Leu	Gln	Arg	Ala	Leu	Cys
			20					25					30		
Ala	Arg	Pro	Leu	Gly	Ala	Pro	His	Val	Phe	Leu	Pro	Gly	Leu	His	Thr
		35					40					45			
Leu	Ser	Leu	Gly	Leu	Gln	Xaa	Arg	His	Leu	Leu	Val	His	Met	Met	Ala
	50					55					60				
Leu	Ser	Tyr	Ser	Tyr	Gly	Arg	Xaa	Pro							
65					70										

<210> 41

<211> 59

<212> PRT

<213> Arabidopsis thaliana

<400> 41

Thr	Ser	Asp	Ser	Ala	Ser	Ser	Phe	Asn	Ile	Pro	Thr	Ser	Ala	Gln	Asn
1				5					10					15	
His	Tyr	Ala	Thr	Gly	Ser	Phe	Ser	Thr	Asn	Ser	Arg	Thr	Thr	Asn	Val
			20					25					30		
Ala	Thr	Ala	Thr	Thr	Asn	Ser	Ala	Thr	Ala	His	Trp	Val	Ala	Thr	Asp
		35					40					45			
Ala	Glu	His	Thr	Asp	Thr	Ile	Ile	Ala	Gln	Pro					
	50					55									

<210> 42

<211> 110

<212> PRT

<213> Brassica napus

<220>

<221> SITE

<222> 1...110

<223> Xaa=unknown amino acid

<400> 42

Arg	Xaa	Phe	Asp	Ser	Leu	Glu	His	Asp	Ala	Ser	Lys	Gly	Glu	Pro	Arg
1				5					10					15	
Glu	Asp	Glu	Arg	Gly	Arg	Xaa	Cys	Leu	Ala	Arg	Asn	Ile	Val	Asn	Ile
		20						25					30		

Val Xaa Cys Lys Xaa Glu Glu Arg Ile Glu Arg Tyr Glu Val Thr Gly
35 40 45
Lys Trp Arg Ala Arg Met Met Met Ala Gly Phe Ser Pro Arg Pro Met
50 55 60
Ser Gly Arg Val Thr Ser Asn Ile Glu Ser Leu Ile Lys Arg Asp Tyr
65 70 75 80
Cys Ser Lys Tyr Lys Val Lys Glu Glu Met Gly Glu Leu His Phe Ser
85 90 95
Trp Glu Glu Lys Ser Leu Ile Val Ala Ser Ala Trp Ser Xaa
100 105 110

<210> 43
<211> 137
<212> PRT
<213> Oryza sativa

<220>
<221> SITE
<222> 1...137
<223> Xaa=unknown amino acid

<400> 43

Asn Gly Ser Tyr Asn Ala Pro Phe Phe Val Thr Arg Phe Arg Glu Ala
1 5 10 15
Leu Phe His Tyr Ser Ala Ile Phe Asp Met Leu Glu Thr Asn Ile Pro
20 25 30
Lys Asp Asn Glu Gln Arg Leu Leu Ile Glu Ser Ala Leu Phe Ser Arg
35 40 45
Glu Xaa Asn Val Ile Ser Cys Glu Gly Leu Glu Arg Met Glu Arg Pro
50 55 60
Glu Thr Tyr Lys Gln Trp Gln Val Arg Asn Gln Arg Val Gly Phe Lys
65 70 75 80
Gln Leu Pro Leu Asn Gln Asp Met Met Lys Arg Ala Arg Xaa Glu Gly
85 90 95
Gln Val Leu Pro Thr Arg Thr Phe Ile Ile Asp Glu Asp Asn Arg Trp
100 105 110
Leu Leu Gln Gly Trp Lys Gly Arg Ile Leu Phe Ala Leu Ser Thr Trp
115 120 125
Lys Pro Asp Asn Arg Ser Ser Ser Xaa
130 135

<210> 44

<211> 41
 <212> PRT
 <213> *Oryza sativa*

<400> 44

Asn	Gly	Gly	Ala	Phe	Ala	Pro	Ser	Thr	Trp	Thr	Ala	Arg	Ser	Leu	Asn
1				5					10					15	
Gly	Gly	Ala	Phe	Ala	Pro	Ser	Thr	Trp	Thr	Ala	Arg	Ser	Leu	Pro	Val
			20					25					30		
Pro	Ser	Ser	Pro	Ser	Thr	Asp	Ser	Phe							
			35				40								

<210> 45
 <211> 1279
 <212> DNA
 <213> *Arabidopsis thaliana*

<400> 45

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tgtctagctc aggggatatt ggcgcggctc aatcaacagc tctcttctcc cgtcgggaag 180
ccattagaaa gagcagcttt ttacttcaaa gaagctctca ataatctcct tcacaacgctc 240
tcccaaacc taaaccctta ttccctcatc ttcaagatcg ctgcttacia atccttctca 300
gagatctctc ccgttcttca gttcgccaac ttacctcca accaagccct cttagagtc 360
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gcttccctca tgcaagagct tggtctccgc gacaacgccg ctctctctc cctcaagatc 480
accgttttcg cttctccggc gaaccacgac cagctcgaac ttggcttcac tcaagacaac 540
ctcaagcact tcgcctctga gatcaacatc tcccttgaca tccaagtttt gagcttagac 600
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acgatcatcg tctgctccga cagaggatgc gagaggacgg atctgccctt ctctcaacag 780
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cagatggggt tctcaccggt gacgcacagt aacttcacgg agtctcaagc cgagtgttta 1020
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tgttggcaaa ggacagaact cgtcggagtt tcagcatgga gatgtcgctc ctcttgattt 1140
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 aatttttagt ttctgatttt attttgetca gtgcgatgga tttttaaatt taagtttcac 1260
 acaaatatat aaatttttg 1279

<210> 46
 <211> 379
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> SITE
 <222> 1...379
 <223> Xaa = STOP

<400> 46

Ala	Ala	Ile	Phe	Tyr	Gly	His	His	His	His	Thr	Pro	Pro	Pro	Ala	Lys
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Arg	Leu	Asn	Pro	Gly	Pro	Val	Gly	Ile	Thr	Glu	Gln	Leu	Val	Lys	Ala
			20					25					30		
Ala	Glu	Val	Ile	Glu	Ser	Asp	Thr	Cys	Leu	Ala	Gln	Gly	Ile	Leu	Ala
		35					40					45			
Arg	Leu	Asn	Gln	Gln	Leu	Ser	Ser	Pro	Val	Gly	Lys	Pro	Leu	Glu	Arg
	50					55					60				
Ala	Ala	Phe	Tyr	Phe	Lys	Glu	Ala	Leu	Asn	Asn	Leu	Leu	His	Asn	Val
65					70					75					80
Ser	Gln	Thr	Leu	Asn	Pro	Tyr	Ser	Leu	Ile	Phe	Lys	Ile	Ala	Ala	Tyr
				85					90					95	
Lys	Ser	Phe	Ser	Glu	Ile	Ser	Pro	Val	Leu	Gln	Phe	Ala	Asn	Phe	Thr
			100					105					110		
Ser	Asn	Gln	Ala	Leu	Leu	Glu	Ser	Phe	His	Gly	Phe	His	Arg	Leu	His
		115					120					125			
Ile	Ile	Asp	Phe	Asp	Ile	Gly	Tyr	Gly	Gly	Gln	Trp	Ala	Ser	Leu	Met
	130					135					140				
Gln	Glu	Leu	Val	Leu	Arg	Asp	Asn	Ala	Ala	Pro	Leu	Ser	Leu	Lys	Ile
145					150					155					160
Thr	Val	Phe	Ala	Ser	Pro	Ala	Asn	His	Asp	Gln	Leu	Glu	Leu	Gly	Phe
				165					170					175	
Thr	Gln	Asp	Asn	Leu	Lys	His	Phe	Ala	Ser	Glu	Ile	Asn	Ile	Ser	Leu
			180					185					190		

Asp Ile Gln Val Leu Ser Leu Asp Leu Leu Gly Ser Ile Ser Trp Pro
 195 200 205
 Asn Ser Ser Glu Lys Glu Ala Val Ala Val Asn Ile Ser Ala Ala Ser
 210 215 220
 Phe Ser His Leu Pro Leu Val Leu Arg Phe Val Lys His Leu Ser Pro
 225 230 235 240
 Thr Ile Ile Val Cys Ser Asp Arg Gly Cys Glu Arg Thr Asp Leu Pro
 245 250 255
 Phe Ser Gln Gln Leu Ala His Ser Leu His Ser His Thr Ala Leu Phe
 260 265 270
 Glu Ser Leu Asp Ala Val Asn Ala Asn Leu Asp Ala Met Gln Lys Ile
 275 280 285
 Glu Arg Phe Leu Ile Gln Pro Glu Ile Glu Lys Leu Val Leu Asp Arg
 290 295 300
 Ser Arg Pro Ile Glu Arg Pro Met Met Thr Trp Gln Ala Met Phe Leu
 305 310 315 320
 Gln Met Gly Phe Ser Pro Val Thr His Ser Asn Phe Thr Glu Ser Gln
 325 330 335
 Ala Glu Cys Leu Val Gln Arg Thr Pro Val Arg Gly Phe His Val Glu
 340 345 350
 Lys Lys His Asn Ser Leu Leu Leu Cys Trp Gln Arg Thr Glu Leu Val
 355 360 365
 Gly Val Ser Ala Trp Arg Cys Arg Ser Ser Xaa
 370 375

<210> 47
 <211> 745
 <212> DNA
 <213> Arabidopsis thaliana

<400> 47

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atgtaagaag agaatgctgc acaaagaact tgttcaaaga taatattgat gtaagtcctg 540
ttttataact ttctagctgt gtttttgttg tttctcagct agattctcct aacgggtattc 600
ttgtagctag ggtgatcaga ttgtttgtat attgctagca gagttagttt gtctagattg 660
taacacatat aagaggaagc ttagagtttc tatggtttaa agagaagttt tttccttctc 720
caatgtaaaa aaaaaaaaaa aaaaa 745

<210> 48
<211> 134
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> 134
<223> Xaa = STOP

<400> 48

Ala	Tyr	Asn	Ala	Pro	Phe	Phe	Val	Thr	Arg	Phe	Arg	Glu	Ala	Leu	Phe	1	5	10	15
His	Phe	Ser	Ser	Ile	Phe	Asp	Met	Leu	Glu	Thr	Ile	Val	Pro	Arg	Glu	20	25	30	
Asp	Glu	Glu	Arg	Met	Phe	Leu	Glu	Met	Glu	Val	Phe	Gly	Arg	Glu	Ala	35	40	45	
Leu	Asn	Val	Ile	Ala	Cys	Glu	Gly	Trp	Glu	Arg	Val	Glu	Arg	Pro	Glu	50	55	60	
Thr	Tyr	Lys	Gln	Trp	His	Val	Arg	Ala	Met	Arg	Ser	Gly	Leu	Val	Gln	65	70	75	80
Val	Pro	Phe	Asp	Pro	Ser	Ile	Met	Lys	Thr	Ser	Leu	His	Lys	Val	His	85	90	95	
Thr	Phe	Tyr	His	Lys	Asp	Phe	Val	Ile	Asp	Gln	Asp	Asn	Arg	Trp	Leu	100	105	110	
Leu	Gln	Gly	Trp	Lys	Gly	Arg	Thr	Val	Met	Ala	Leu	Ser	Val	Trp	Lys	115	120	125	
Pro	Glu	Ser	Lys	Ala	Xaa	130													

<210> 49
<211> 775
<212> DNA

<213> Arabidopsis thaliana

<400> 49

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aataatttaa acatctgaaa aatgttactt ctcaattaca tcatttttgt ttcccaatgg 660
ttttgtagaa tatgtttgat cccgtgagtg gatgcaactc ttttttctg caagtacata 720
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<210> 50

<211> 206

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> SITE

<222> 206

<223> Xaa = STOP

<400> 50

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Glu Thr Thr Val Val Asn Cys Ile His Arg Leu Gln Tyr Thr Pro Asp
      20              25              30

Glu Thr Val Ser Leu Asp Ser Pro Arg Asp Thr Val Leu Lys Leu Phe
      35              40              45

Arg Asp Ile Asn Pro Asp Leu Phe Val Phe Ala Glu Ile Asn Gly Met
      50              55              60

Tyr Asn Ser Pro Phe Phe Met Thr Arg Phe Arg Glu Ala Leu Phe His
      65              70              75              80
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Tyr Ser Ser Leu Phe Asp Met Phe Asp Thr Thr Ile His Ala Glu Asp
 85 90 95
 Glu Tyr Lys Asn Arg Ser Leu Leu Glu Arg Glu Leu Leu Val Arg Asp
 100 105 110
 Ala Met Ser Val Ile Ser Cys Glu Gly Ala Glu Arg Phe Ala Arg Pro
 115 120 125
 Glu Thr Tyr Lys Gln Trp Arg Val Arg Ile Leu Arg Ala Gly Phe Lys
 130 135 140
 Pro Ala Thr Ile Ser Lys Gln Ile Met Lys Glu Ala Lys Glu Ile Val
 145 150 155 160
 Arg Lys Arg Tyr His Arg Asp Phe Val Ile Asp Ser Asp Asn Asn Trp
 165 170 175
 Met Leu Gln Gly Trp Lys Gly Arg Val Ile Tyr Ala Phe Ser Cys Trp
 180 185 190
 Lys Pro Ala Glu Lys Phe Thr Asn Asn Asn Leu Asn Ile Xaa
 195 200 205

<210> 51
 <211> 548
 <212> DNA
 <213> Arabidopsis thaliana

<400> 51

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 cccggttttg gttaatggag gagaaagaac aatggagagt gttgatggag aaagctggat 180
 ttgagccggt taaaccgagt aattacgcgg ttagccaagc gaagctgcta ctatggaact 240
 acaattatag tacattgtat tcacttggtg aatcggagcc aggtttcatc tccttggtt 300
 ggaacaatgt gcctctcctc accgtttcct cttggcggtg actacttggt ccgataagtt 360
 aatctagtat tttgagttag cttttagaat tgaattgttt ggggttagat ttggatgttt 420
 aattagtctc tagcctattc tcttactctt ttttgtctag tgcttgagat gatgatggtt 480
 tgtcgtttat gttcatttgt aatatatatt gtatgtaaca ttgactaaa aaaaaaaaaa 540
 aaaaaaaaaa 548

<210> 52
 <211> 113
 <212> PRT

<213> Arabidopsis thaliana

<220>

<221> SITE

<222> 113

<223> Xaa = STOP

<400> 52

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Glu	Arg	Val	Leu	Phe	Gly	Arg	Arg	Ile	Met	Asp	Leu	Val	Arg	Ser	Asp
		20						25					30		
Asp	Asp	Asn	Asn	Lys	Pro	Gly	Thr	Arg	Phe	Gly	Leu	Met	Glu	Glu	Lys
		35					40					45			
Glu	Gln	Trp	Arg	Val	Leu	Met	Glu	Lys	Ala	Gly	Phe	Glu	Pro	Val	Lys
	50					55					60				
Pro	Ser	Asn	Tyr	Ala	Val	Ser	Gln	Ala	Lys	Leu	Leu	Leu	Trp	Asn	Tyr
65					70					75					80
Asn	Tyr	Ser	Thr	Leu	Tyr	Ser	Leu	Val	Glu	Ser	Glu	Pro	Gly	Phe	Ile
			85						90					95	
Ser	Leu	Ala	Trp	Asn	Asn	Val	Pro	Leu	Leu	Thr	Val	Ser	Ser	Trp	Arg
		100						105					110		

Xaa

<210> 53

<211> 1093

<212> DNA

<213> Arabidopsis thaliana

<400> 53

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gggccgccgt tgctgctgtg gacgggtgtg gatgattcac agtccaccta tgctcgtggg 180
ggaggactca gcttggtagg tgagaggctt gcaactttgg cgcagtcatg tgggtgtccc 240
tttgagtttc acgatgccat catgtctggg tgcaagggtg agcggaaca tctcgggttg 300
gaacctggct ttgctgttgt tgtgaacttc ccatatgtat tacaccacat gccagacgag 360
agcgtaagtg ttgaaaaata cagagacagg ctgctgcata tgatcaagag cctctcccca 420
aaactgggta ctctagtaga gcaagaatcc aacacaaaca cctcgccatt ggtgtcacgg 480
tttgtggaaa cactggatta ctacacagcg atgtttgagt cgatagatgc agcacggcca 540

cgggatgata agcagagaat cagcgcagaa caacactgtg tagcaagaga catagtgaac 600
 atgatagcat gtgaggagtc agagagagta gagagacacg aggtactggg gaaatggagg 660
 gtcagaatga tgatggctgg gttcacgggt tggccgggtca gcacatctgc agcgtttgca 720
 gcgagtgaga tgctgaaagc ttatgacaaa aactacaaac tgggaggcca tgaaggagcg 780
 ctctacctct tctggaagag acgacccatg gctacatggt ccgtgtggaa gccaaacca 840
 aactatattg ggtaagttat agtgatgatg gttacttgag tggataaaga agagcacaac 900
 aaaaacacat ctgtcgctgt aaatttttta ggatgtgcaa tgatgtttta agttgtaaca 960
 caacctaagt tatatatgta tacaaccaa acctgggtgg tgtttttctc ttgtaaattg 1020
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 aaaaaaaaaa aaa 1093

<210> 54
 <211> 285
 <212> PRT
 <213> Arabidopsis thaliana

<220>
 <221> SITE
 <222> 285
 <223> Xaa = STOP

<400> 54

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Ile	Ile	Asp	Phe	Gln	Ile	Ala	Gln	Gly	Ser	Gln	Tyr	Met	Phe	Leu	Ile
		20						25					30		
Gln	Glu	Leu	Ala	Lys	Arg	Pro	Gly	Gly	Pro	Pro	Leu	Leu	Arg	Val	Thr
		35					40						45		
Gly	Val	Asp	Asp	Ser	Gln	Ser	Thr	Tyr	Ala	Arg	Gly	Gly	Gly	Leu	Ser
	50					55					60				
Leu	Val	Gly	Glu	Arg	Leu	Ala	Thr	Leu	Ala	Gln	Ser	Cys	Gly	Val	Pro
65					70					75					80
Phe	Glu	Phe	His	Asp	Ala	Ile	Met	Ser	Gly	Cys	Lys	Val	Gln	Arg	Glu
			85						90					95	
His	Leu	Gly	Leu	Glu	Pro	Gly	Phe	Ala	Val	Val	Val	Asn	Phe	Pro	Tyr
		100					105						110		
Val	Leu	His	His	Met	Pro	Asp	Glu	Ser	Val	Ser	Val	Glu	Lys	Tyr	Arg
	115						120						125		

Asp Arg Leu Leu His Leu Ile Lys Ser Leu Ser Pro Lys Leu Val Thr
 130 135 140
 Leu Val Glu Gln Glu Ser Asn Thr Asn Thr Ser Pro Leu Val Ser Arg
 145 150 155 160
 Phe Val Glu Thr Leu Asp Tyr Tyr Thr Ala Met Phe Glu Ser Ile Asp
 165 170 175
 Ala Ala Arg Pro Arg Asp Asp Lys Gln Arg Ile Ser Ala Glu Gln His
 180 185 190
 Cys Val Ala Arg Asp Ile Val Asn Met Ile Ala Cys Glu Glu Ser Glu
 195 200 205
 Arg Val Glu Arg His Glu Val Leu Gly Lys Trp Arg Val Arg Met Met
 210 215 220
 Met Ala Gly Phe Thr Gly Trp Pro Val Ser Thr Ser Ala Ala Phe Ala
 225 230 235 240
 Ala Ser Glu Met Leu Lys Ala Tyr Asp Lys Asn Tyr Lys Leu Gly Gly
 245 250 255
 His Glu Gly Ala Leu Tyr Leu Phe Trp Lys Arg Arg Pro Met Ala Thr
 260 265 270
 Cys Ser Val Trp Lys Pro Asn Pro Asn Tyr Ile Gly Xaa
 275 280 285

<210> 55
 <211> 1928
 <212> DNA
 <213> Arabidopsis thaliana

<400> 55

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 cagaattttc aatctccgtc ggccgatgat tgatctcacg tcggtgaatg atatgagttt 180
 gtttggtggt tctggttcat ctcagcgta cggtttaccg gttcccaggt ctcagacgca 240
 acagcaacaa tcggattacg gtttatttgg tgggatccga atgggaatcg ggtcgggtat 300
 taataattat ccaacattaa ccggcggtcc gtgtattgaa ccggttcaaa accgggttca 360
 tgaatcggag aacatgttga atagtttaag agagcttgag aaacagcttt tagatgatga 420
 cgatgagagt ggtggtgatg atgacgtgtc agttataaca aattcaaatt ccgattggat 480
 tcaaaatctc gtgactccga acccgaaccc gaaccgggtt ttgtcttttt caccgagctc 540


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ttctttcttcg tctttcttcgc cttctacagc ttcgacgacg acatcgggtat gttctaggca 600
aacggttatg gaaatcgcg aagcgatcgc ggaagggaaa acagagatag cgacggagat 660
tttggcgcggt gttttctcaaa cgcctaattct tgagaggaat tcagaggaga agcttggtga 720
tttcatggtg gctgcgcttc gatcgaggat agcttctcca gtgacggaat tgtatgggaa 780
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accgcacgtt atcgatttcg atatcgga aagtggaaca tacgttaacc ttctccgtac 960
attatccacg cgccggaatg gtaaaagtca gagtcagaat tctccgggtg ttaagatcac 1020
cgccgtggcg aacaacgttt acggatgttt agtcgatgac ggtggagaag agagggtaaa 1080
agccgtcgga gatgtgtga gccaaactcg tgatcgactc ggtatctccg taagtttcaa 1140
cgtggtgacg agtttacgac tcggtgatct gaatcgtgaa tctctcgggt gtgatcccg 1200
cgagactttg gctgtgaact tagctttcaa gctttatcgt gttcccgacg aaagcgtatg 1260
cacggagaat ccaagagacg aacttctccg gcgcgtgaag ggacttaaac cgcgcggtgt 1320
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cgaaggaatc gatcgtatag agcggtgcg ggtgttcggg aaatggcgaa tgcggatgag 1560
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tttatgtttt tctaataata aaagaaagag tgattgggtt caaaaaaaaa aaaaaaaaaa 1920
aaaaaaaaa 1928

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<210> 56
<211> 524
<212> PRT
<213> Arabidopsis thaliana

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<220>
<221> SITE
<222> 524

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<223> Xaa = STOP

<400> 56

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20 25 30
Gln Ser Asp Tyr Gly Leu Phe Gly Gly Ile Arg Met Gly Ile Gly Ser
35 40 45
Gly Ile Asn Asn Tyr Pro Thr Leu Thr Gly Val Pro Cys Ile Glu Pro
50 55 60
Val Gln Asn Arg Val His Glu Ser Glu Asn Met Leu Asn Ser Leu Arg
65 70 75 80
Glu Leu Glu Lys Gln Leu Leu Asp Asp Asp Asp Glu Ser Gly Gly Asp
85 90 95
Asp Asp Val Ser Val Ile Thr Asn Ser Asn Ser Asp Trp Ile Gln Asn
100 105 110
Leu Val Thr Pro Asn Pro Asn Pro Asn Pro Val Leu Ser Phe Ser Pro
115 120 125
Ser Ser Ser Ser Ser Ser Ser Ser Pro Ser Thr Ala Ser Thr Thr Thr
130 135 140
Ser Val Cys Ser Arg Gln Thr Val Met Glu Ile Ala Thr Ala Ile Ala
145 150 155 160
Glu Gly Lys Thr Glu Ile Ala Thr Glu Ile Leu Ala Arg Val Ser Gln
165 170 175
Thr Pro Asn Leu Glu Arg Asn Ser Glu Glu Lys Leu Val Asp Phe Met
180 185 190
Val Ala Ala Leu Arg Ser Arg Ile Ala Ser Pro Val Thr Glu Leu Tyr
195 200 205
Gly Lys Glu His Leu Ile Ser Thr Gln Leu Leu Tyr Glu Leu Ser Pro
210 215 220
Cys Phe Lys Leu Gly Phe Glu Ala Ala Asn Leu Ala Ile Leu Asp Ala
225 230 235 240
Ala Asp Asn Asn Asp Gly Gly Met Met Ile Pro His Val Ile Asp Phe
245 250 255
Asp Ile Gly Glu Gly Gly Gln Tyr Val Asn Leu Leu Arg Thr Leu Ser
260 265 270
Thr Arg Arg Asn Gly Lys Ser Gln Ser Gln Asn Ser Pro Val Val Lys
275 280 285

Ile Thr Ala Val Ala Asn Asn Val Tyr Gly Cys Leu Val Asp Asp Gly
 290 295 300
 Gly Glu Glu Arg Leu Lys Ala Val Gly Asp Leu Leu Ser Gln Leu Gly
 305 310 315 320
 Asp Arg Leu Gly Ile Ser Val Ser Phe Asn Val Val Thr Ser Leu Arg
 325 330 335
 Leu Gly Asp Leu Asn Arg Glu Ser Leu Gly Cys Asp Pro Asp Glu Thr
 340 345 350
 Leu Ala Val Asn Leu Ala Phe Lys Leu Tyr Arg Val Pro Asp Glu Ser
 355 360 365
 Val Cys Thr Glu Asn Pro Arg Asp Glu Leu Leu Arg Arg Val Lys Gly
 370 375 380
 Leu Lys Pro Arg Val Val Thr Leu Val Glu Gln Glu Met Asn Ser Asn
 385 390 395 400
 Thr Ala Pro Phe Leu Gly Arg Val Ser Glu Ser Cys Ala Cys Tyr Gly
 405 410 415
 Ala Leu Leu Glu Ser Val Glu Ser Thr Val Pro Ser Thr Asn Ser Asp
 420 425 430
 Arg Ala Lys Val Glu Glu Gly Ile Gly Arg Lys Leu Val Asn Ala Val
 435 440 445
 Ala Cys Glu Gly Ile Asp Arg Ile Glu Arg Cys Glu Val Phe Gly Lys
 450 455 460
 Trp Arg Met Arg Met Ser Met Ala Gly Phe Glu Leu Met Pro Leu Ser
 465 470 475 480
 Glu Lys Ile Ala Glu Ser Met Lys Ser Arg Gly Asn Arg Val His Pro
 485 490 495
 Gly Phe Thr Val Lys Glu Asp Asn Gly Gly Val Cys Phe Gly Trp Met
 500 505 510
 Gly Arg Ala Leu Thr Val Ala Ser Ala Trp Arg Xaa
 515 520

<210> 57
 <211> 2635
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...2635
 <223> n=a, c, g, or t

<400> 57

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tgggttctta tccggatgga ttccctggat ccatggacga gttggatttc aataaggact 180
ttgatttgcc tccctcctca aaccaaact taggtttagc taatgggttc tatttagatg 240
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acaacatcaa caacaaagct gtagcaggag atctgttatc atcttcatct gatgacgctg 360
atttctctga ttctgttttg aagtatataa gccaaattct tatggaagag gatatggaag 420
agaagccttg tatgtttcat gatgcttttg ctcttcaagc tgctgagaaa tctctctatg 480
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gattggctag tcatagccct gacggttctt gttcagggtg tgcttttagt gattacgcta 600
gcaccactac cactacttcc tctgattctc actggagtgt tgatggtttg gagaatagac 660
cttcttgggt acatacacct atgccgagta attttgtttt ccagtctact tctaggtcca 720
acagtgtcac cggtggtggt ggtggtggtg atagtgcggt ttacggttca ggttttggcg 780
atgatttggg ttogaatatg tttaaagatg atgaattggc tatgcagttc aagaaagggg 840
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aagtcgtgac cgcacagtca aatggagcaa agattcgtgg gaagaaatca acttctacta 1260
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tccacataat agatttcgga atatcttacg gttttcagtg gcctgctctg attcatcgcc 1680
tctcgctcag cagacctggt ggttcgccta agcttcgaat taccggtnnn nnnnnnnnnn 1740

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nnnnnnnnnn nnnnnnnnnn nnngagttca ggagacaggt catcgcttgg ctcgatactg 1800
tcagcgacac aatgttccgt ttgagtacaa cgcaattgct cagaaatggg gaaacgatcc 1860
aagtcgaaga cttaaagctt cgacaaggag agtatgtggt tgtgaactct ttgttccgtt 1920
tcaggaacct tctagatgag accgttcttg taaacagccc gagagatgca gttttgaagc 1980
tgataagaaa aataaaccgg aatgtcttca ttccagcgat ctttaagcggg aattacaacg 2040
cgccattctt tgtcacgagg ttcagagaag cgttgtttca ttactcggct gtgtttgata 2100
tgtgtgactc gaagctagct aggggaagac agatgaggct gatgtatgtg tttgagtttt 2160
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agacatataa gcagtgccag gcgagactga tccgagccgg atttagacag cttccgcttg 2280
agaaggaact gatgcagaat ctgaagttga aaatcgaaaa cgggtacgat aaaaacttcg 2340
atgttgatca aaacggtaac tggttacttc aagggtggaa aggtagaatc gtgtatgctt 2400
catctctatg ggttccttcg tcttcataga tgttgtttct tacgttctaa gcgactggga 2460
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tagggttctt gaacactaga atgttgttat attatgcttg tgacatagcg tgtgtaagag 2580
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<210> 58

<211> 809

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> SITE

<222> 1...809

<223> Xaa=unknown amino acid

<400> 58

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Arg Ile Lys Ile Arg Pro Leu Leu Asp Ile Asn Asp Ser Gly Phe Leu
                20               25               30
Gly Phe Trp Ser Trp Ile His Met Gly Ser Tyr Pro Asp Gly Phe Pro
                35               40               45
Gly Ser Met Asp Glu Leu Asp Phe Asn Lys Asp Phe Asp Leu Pro Pro
                50               55               60
Ser Ser Asn Gln Thr Leu Gly Leu Ala Asn Gly Phe Tyr Leu Asp Asp
 65               70               75               80

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385					390					395				400
Val	Val	Thr	Ala	Gln	Ser	Asn	Gly	Ala	Lys	Ile	Arg	Gly	Lys	Ser
				405					410				415	
Thr	Ser	Thr	Ser	His	Ser	Asn	Asp	Ser	Lys	Lys	Glu	Thr	Ala	Leu
			420					425					430	
Arg	Thr	Leu	Leu	Val	Leu	Cys	Ala	Gln	Ala	Val	Ser	Val	Asp	Arg
		435					440					445		
Arg	Thr	Ala	Asn	Val	Xaa	Leu	Arg	Gln	Ile	Arg	Glu	His	Ser	Pro
	450					455					460			
Leu	Gly	Asn	Gly	Ser	Glu	Arg	Leu	Ala	His	Tyr	Phe	Ala	Asn	Leu
465					470					475				480
Glu	Ala	Arg	Leu	Ala	Gly	Thr	Gly	Thr	Gln	Ile	Tyr	Thr	Ala	Ser
			485						490					495
Ser	Lys	Lys	Thr	Ser	Ala	Ala	Asp	Met	Leu	Lys	Ala	Tyr	Gln	Tyr
			500					505					510	
Met	Ser	Val	Cys	Pro	Phe	Lys	Lys	Ala	Ala	Ile	Ile	Phe	Ala	His
		515					520					525		
Ser	Met	Met	Arg	Phe	Thr	Ala	Asn	Ala	Asn	Thr	Ile	His	Ile	Asp
	530					535					540			
Phe	Gly	Ile	Ser	Tyr	Gly	Phe	Gln	Trp	Pro	Ala	Leu	Ile	His	Leu
545					550					555				560
Ser	Leu	Ser	Arg	Pro	Gly	Gly	Ser	Pro	Lys	Leu	Arg	Ile	Thr	Xaa
				565					570					575
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Glu	Phe	Arg	Gln
			580					585					590	
Val	Ile	Ala	Trp	Leu	Asp	Thr	Val	Ser	Asp	Thr	Met	Phe	Arg	Ser
		595					600					605		
Thr	Thr	Gln	Leu	Leu	Arg	Asn	Gly	Glu	Thr	Ile	Gln	Val	Glu	Leu
	610					615					620			
Lys	Leu	Arg	Gln	Gly	Glu	Tyr	Val	Val	Val	Asn	Ser	Leu	Phe	Phe
625					630					635				640
Arg	Asn	Leu	Leu	Asp	Glu	Thr	Val	Leu	Val	Asn	Ser	Pro	Arg	Ala
				645					650					655
Val	Leu	Lys	Leu	Ile	Arg	Lys	Ile	Asn	Pro	Asn	Val	Phe	Ile	Ala
			660					665					670	
Ile	Leu	Ser	Gly	Asn	Tyr	Asn	Ala	Pro	Phe	Phe	Val	Thr	Arg	Arg
		675					680					685		
Glu	Ala	Leu	Phe	His	Tyr	Ser	Ala	Val	Phe	Asp	Met	Cys	Asp	Lys
	690					695					700			

Leu Ala Arg Glu Asp Glu Met Arg Leu Met Tyr Val Phe Glu Phe Tyr
 705 710 715 720
 Gly Arg Glu Ile Val Asn Val Val Ala Ser Glu Gly Thr Glu Arg Val
 725 730 735
 Glu Ser Arg Glu Thr Tyr Lys Gln Trp Gln Ala Arg Leu Ile Arg Ala
 740 745 750
 Gly Phe Arg Gln Leu Pro Leu Glu Lys Glu Leu Met Gln Asn Leu Lys
 755 760 765
 Leu Lys Ile Glu Asn Gly Tyr Asp Lys Asn Phe Asp Val Asp Gln Asn
 770 775 780
 Gly Asn Trp Leu Leu Gln Gly Trp Lys Gly Arg Ile Val Tyr Ala Ser
 785 790 795 800
 Ser Leu Trp Val Pro Ser Ser Ser Xaa
 805

<210> 59
 <211> 90
 <212> PRT
 <213> Oryza sativa

<220>
 <221> SITE
 <222> 1...90
 <223> Xaa=unknown amino acid

<400> 59

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 Ala Leu Phe Tyr Tyr Ser Ala Val Phe Asp Ser Leu Asp Ala Ala Asn
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 Asn Asn Asn Asn Asn Asn Asn Gln Arg Met Glu Ala Glu Tyr Leu Gln
 35 40 45
 Arg Glu Ile Cys Asp Ile Val Cys Gly Glu Gly Ala Ala Arg Xaa Glu
 50 55 60
 Arg His Glu Pro Leu Ser Arg Trp Arg Asp Arg Leu Thr Arg Ala Gly
 65 70 75 80
 Leu Ser Ala Val Pro Leu Gly Ser Asn Ala
 85 90

<210> 60
 <211> 199
 <212> DNA

<213> Daucus carota

<220>

<221> modified_base

<222> 1...199

<223> n=a, c, g, or t

<400> 60

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attagttagc tcttgcttag gaatctatgc ttctcttccn gcaacagtgg tgcctcctca 180
tggtcagaaa gtggcctca 199

<210> 61

<211> 66

<212> PRT

<213> Daucus carota

<220>

<221> SITE

<222> 1...66

<223> Xaa=unknown amino acid

<400> 61

Ser Ala Asp Asn Phe Xaa Glu Ala Asn Thr Met Leu Leu Glu Ile Ser
1 5 10 15
Glu Leu Ser Thr Pro Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Tyr
20 25 30
Phe Ser Glu Xaa Met Ser Xaa Arg Leu Val Ser Ser Cys Leu Gly Ile
35 40 45
Tyr Ala Ser Leu Pro Ala Thr Val Val Pro Pro His Gly Gln Lys Val
50 55 60
Ala Ser
65

<210> 62

<211> 321

<212> DNA

<213> Glycine max

<220>

<221> modified_base

<222> 1...321

<223> n=a, c, g, or t

<400> 62

tcaactgaga atctagaaga tgccaacaag atgcttctgg agatttctca gttatcaaca 60
 ccgttcnnca cttcagcaca gcgtgtggca gcatatttct cagaagccat atcagcaagg 120
 ttggtgagtt catgtctagg gatatacgca actttgccac acacacacca aagccacaag 180
 gtagcttcag cttttcaagt gttcaatggt attagtcctt tagtggagtt ctcacacttc 240
 acagcaaacc aagcaattca agaagccttc gaaagagaag agaggggtgca catcatagat 300
 cttgatataa tgcaagggtt g 321

<210> 63
 <211> 107
 <212> PRT
 <213> Glycine max

<220>
 <221> SITE
 <222> 1...107
 <223> Xaa=unknown amino acid

<400> 63

Ser	Thr	Glu	Asn	Leu	Glu	Asp	Ala	Asn	Lys	Met	Leu	Leu	Glu	Ile	Ser
1				5					10					15	
Gln	Leu	Ser	Thr	Pro	Phe	Xaa	Thr	Ser	Ala	Gln	Arg	Val	Ala	Ala	Tyr
			20					25					30		
Phe	Ser	Glu	Ala	Ile	Ser	Ala	Arg	Leu	Val	Ser	Ser	Cys	Leu	Gly	Ile
		35					40					45			
Tyr	Ala	Thr	Leu	Pro	His	Thr	His	Gln	Ser	His	Lys	Val	Ala	Ser	Ala
	50					55					60				
Phe	Gln	Val	Phe	Asn	Gly	Ile	Ser	Pro	Leu	Val	Glu	Phe	Ser	His	Phe
65					70					75				80	
Thr	Ala	Asn	Gln	Ala	Ile	Gln	Glu	Ala	Phe	Glu	Arg	Glu	Glu	Arg	Val
			85						90					95	
His	Ile	Ile	Asp	Leu	Asp	Ile	Met	Gln	Gly	Leu					
			100					105							

<210> 64
 <211> 195
 <212> DNA
 <213> Picea abies

<220>
 <221> modified_base
 <222> 1...195
 <223> n=a, c, g, or t

<400> 64

tctgcagaca actttgaaga agccaataca atactgcctc agatcacaga actctccacc 60
ccctatngca actcggtgca acgagtggct gcctatnnnn nnnnnnnnnn nnnnnnnnnn 120
nnnnnnnnnn nntgcatagg aatgtattct cctctccctc ctattcacat gtcccagagc 180
cagaaaattg tgaat 195

<210> 65

<211> 65

<212> PRT

<213> Picea abies

<220>

<221> SITE

<222> 1...65

<223> Xaa=unknown amino acid

<400> 65

Ser	Ala	Asp	Asn	Phe	Glu	Glu	Ala	Asn	Thr	Ile	Leu	Pro	Gln	Ile	Thr
1				5					10					15	
Glu	Leu	Ser	Thr	Pro	Tyr	Xaa	Asn	Ser	Val	Gln	Arg	Val	Ala	Ala	Tyr
			20					25					30		
Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Xaa	Cys	Ile	Gly	Met
		35					40					45			
Tyr	Ser	Pro	Leu	Pro	Pro	Ile	His	Met	Ser	Gln	Ser	Gln	Lys	Ile	Val
	50					55				60					

Asn
65

<210> 66

<211> 2151

<212> DNA

<213> Zea mays

<400> 66

gatatcagca tcatcaattt taaatgtaag ttggcaaaag atcatgaggg ttctcatagt 60
aatttggcca caaggtatga cactgtctca attgagcaat ctagtagaga aactgatcca 120
tcatatattg ctcatattga aagtgaaaaa gatatgctca agaacctagt agagaagcta 180
aaaattgaaa aatctagctc tactagaaaa atatgatagg ttgcctgttt ctcatgaaaa 240
tttattagat aatcatatca tggctagatg tcgctcatga gggtgttctt gctagtttag 300
attcctgtgg gcattcatct cttttagatg cactaacatg ataggaagtt tctaattctgg 360

tgcttcacaa ttctggtgat tcatgcttcc ttcattgcaa ttgatattga tgcttgattc 420
 atgcttcagt cactttgtgc gtttaattgg tattgtatgt atcactagat tgtaggggtgt 480
 ctgcaactag tgtttcacca tgtgggtttt tagtatcatt cgtattagtt tctaactttc 540
 tattgatata ttaaagtgat aactagtttt agaaatattc tcttgtgcca ttaatgctac 600
 aacttgtttt tagcgtgtac gtttagcatta taatattttc ttattatgaa agcgggaagag 660
 aaacgcgccc aaccagagca tccacgtcgt ctcatttcac cttcatcggt ggatcataga 720
 tgagcgggtcc acggtgaact ccgtttgcct gcaaaaccac gtcctctacg cgctgttaag 780
 tagcttctag aaacatcacg atgtgtcccg tccattcctt taggaggagc cgatccggc 840
 gccgcagtcg cccaaggtcc cgaccgcgcg gccctcgcc gccgcgcca aggagcggaa 900
 ggaggtgcag cggcggaagc agcgcgacga ggagggcctc cacctgctga gtgctgacgc 960
 tgctgctgca gtgcgaggag gccgtgaacg cggacaacct cgacgacgcg caccagacgc 1020
 tgctggagat cgcggagctg gccacgccgt tcggcacctc gaccacgcgc gtggccgcct 1080
 acttcgcgga ggccatgtcg gcgcgcgtcg tcagctcctg cctaggcctg tacgcgcgcg 1140
 tgccgccggg ctccccgcc gcggcgccgc tccacggccg cgtggccgcc gcgttccagg 1200
 tgttcaacgg catcagcccc ttcgtcaagt tctcgcaact caccgccaac caggccatcc 1260
 aggaggcgtt cgagcgggag gagcgtgtgc acatcatcga cctcgacatc atgcaggggc 1320
 tgcagtggcc gggcctcttc cacatccttg tctcccgccc cggcgggccc cccaggggtca 1380
 ggctcaccgg cctggggggcg tccatggacg cgctcgaggc gacggggaag cgcctctccg 1440
 acttcgccga cacgctcggc ctgcccttcg agttctgcgc cgctcgccgag aaggccggca 1500
 acgttgaccc gcagaagctg ggcgtcacgc ggcgggaggc cgctcgccgtc cactggccgc 1560
 accactcgct ttacgacgtc atcgggtccg actccaacac gctctggctc atccaaaggt 1620
 cctccatttt ccttctctgc ctttcttcca tgtcaaactt tgatgcaatc atgaccactt 1680
 ttcagctgct gacattggat aatgtgagct ttacggcaag catcaagtcg tggtagtaca 1740
 tccattacag ctattttctaa aatattcttc ggaggtttcc tgctcatagt aaaaaaaaaat 1800
 cgcgttttga agctcaaaag gcgatttctt ccgaggtttg ctgttgagcg ctattttgga 1860
 aaccccatth tctcaattga tttttattht ttaaagaaaa attagttcat ttttctcttg 1920
 tgaaatggag tcccaaacta accctaatat taiaaaaaaac gcgctttgga gctcaaaacg 1980
 ctcgttgtta tgaccaacca gctttatagg tttaaaaagg ttgaatcttg acaatgcttt 2040
 tgaaaagggt gaatcttgac aatgcttttg agatgatact gtagttagt ctgtagtgga 2100

Arg Ala Ser Thr Ser Ser His Phe Thr Phe Ile Val Gly Ser Xaa Met
 225 230 235 240
 Ser Gly Pro Arg Xaa Thr Pro Phe Ala Cys Lys Thr Thr Ser Ser Thr
 245 250 255
 Arg Cys Xaa Val Ala Ser Arg Asn Ile Thr Met Cys Pro Val His Ser
 260 265 270
 Phe Arg Arg Ser Arg Ile Arg Arg Arg Ser Arg Pro Arg Ser Arg Pro
 275 280 285
 Pro Arg Pro Arg Pro Pro Pro Pro Arg Ser Gly Arg Arg Cys Ser Gly
 290 295 300
 Gly Ser Ser Ala Thr Arg Arg Ala Ser Thr Cys Xaa Val Leu Thr Leu
 305 310 315 320
 Leu Leu Gln Cys Ala Glu Ala Val Asn Ala Asp Asn Leu Asp Asp Ala
 325 330 335
 His Gln Thr Leu Leu Glu Ile Ala Glu Leu Ala Thr Pro Phe Gly Thr
 340 345 350
 Ser Thr Gln Arg Val Ala Ala Tyr Phe Ala Glu Ala Met Ser Ala Arg
 355 360 365
 Val Val Ser Ser Cys Leu Gly Leu Tyr Ala Pro Leu Pro Pro Gly Ser
 370 375 380
 Pro Ala Ala Ala Arg Leu His Gly Arg Val Ala Ala Ala Phe Gln Val
 385 390 395 400
 Phe Asn Gly Ile Ser Pro Phe Val Lys Phe Ser His Phe Thr Ala Asn
 405 410 415
 Gln Ala Ile Gln Glu Ala Phe Glu Arg Glu Glu Arg Val His Ile Ile
 420 425 430
 Asp Leu Asp Ile Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile
 435 440 445
 Leu Val Ser Arg Pro Gly Gly Pro Pro Arg Val Arg Leu Thr Gly Leu
 450 455 460
 Gly Ala Ser Met Asp Ala Leu Glu Ala Thr Gly Lys Arg Leu Ser Asp
 465 470 475 480
 Phe Ala Asp Thr Leu Gly Leu Pro Phe Glu Phe Cys Ala Val Ala Glu
 485 490 495
 Lys Ala Gly Asn Val Asp Pro Gln Lys Leu Gly Val Thr Arg Arg Glu
 500 505 510
 Ala Val Ala Val His Trp Pro His His Ser Leu Tyr Asp Val Ile Gly
 515 520 525
 Ser Asp Ser Asn Thr Leu Trp Leu Ile Gln Arg Ser Ser Ile Phe Leu

530		535		540
Leu Cys Leu Ser Ser Met Ser Asn Leu Asp Ala Ile Met Thr Thr Phe				
545		550	555	560
Gln Leu Leu Thr Leu Asp Asn Val Ser Phe Thr Ala Ser Ile Lys Ser				
	565		570	575
Trp Xaa Tyr Ile His Tyr Ser Tyr Phe Xaa Asn Ile Leu Arg Arg Phe				
	580		585	590
Pro Ala His Ser Lys Lys Lys Ser Arg Phe Glu Ala Gln Lys Ala Ile				
	595	600		605
Ser Ser Glu Val Cys Cys Xaa Ala Leu Phe Trp Lys Pro His Phe Leu				
	610	615	620	
Asn Xaa Phe Leu Phe Phe Lys Glu Lys Leu Val His Phe Ser Leu Val				
625		630	635	640
Lys Trp Ser Pro Lys Leu Thr Leu Ile Leu Lys Lys Thr Arg Phe Gly				
	645		650	655
Ala Gln Asn Ala Arg Cys Tyr Asp Gln Pro Ala Leu Xaa Val Xaa Lys				
	660	665		670
Gly Xaa Ile Leu Thr Met Leu Leu Lys Arg Leu Asn Leu Asp Asn Ala				
	675	680	685	
Phe Glu Met Ile Leu Xaa Cys Ser Leu Xaa Trp Ser Ile Leu His Gly				
	690	695	700	
Leu Trp Xaa Ser Arg Ile Pro Ala Ala Arg Gly Ile				
705		710	715	

<210> 68
 <211> 426
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...426
 <223> n=a, c, g, or t

<400> 68

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ctttgtcaat ggtaaagtag ctgaggcaga tagtttctat ccaaggagac ccttctcaga 60
gaatcgcagc ttacatggtg gaaggtctag ctgcaagaat ggccgcttca ggaaaattca 120
tctacagagc attgaaatgc aaagagcctc cttcggatga gaggcttgca gctatgagat 180
cctgtttgaa gtctgccctt gtttcaagtt cgggttttta gcagctaata gtgcgatact 240
tgaagcaatc aaaggtgaag aagaagttca cataatcgat ttcatataa accaagggaa 300
  
```

ccaatacatg aactgatac gaagcattgc tgagttingcc tgggtaaacg acctcgctg 360
 aggttaaaca ggaattgatg accctgaatc cagtnccaac cgctccattt gggggggcct 420
 aaagaa 426

<210> 69
 <211> 343
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...343
 <223> n=a, c, g, or t

<400> 69

gagtacgac ttaaagctat tcccgggtgac gcgattctca atcagttcgc tatcgattcg 60
 gcttcttcgt ctaaccaagg cggcggagga gatacgtata ctacaaacaa gcggttgaaa 120
 tgctcaaacg gcgtcgtgga aaccactaca gcgacggctg agatcaactc ggcattgtgt 180
 cctgggtgac tcgcaggaga acggtgtgcg tctcgttcac gcgcttttgg cttgcgctga 240
 aagctgttca gaaagagaat ctgactgtag cggantctgg tgaagcaaact cggattctta 300
 gccgtttctc aaatcggagc gatgagaaaa gtcgctactt act 343

<210> 70
 <211> 372
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...372
 <223> n=a, c, g, or t

<400> 70

aaatttttca attacctaataaataatgaaag ataagatctt aacaagtgac aaagggaaaa 60
 acagtaggat ttagtttggc ttcgggtcgga aatctatcat cataaccggt tcaacagatc 120
 aattcattga gccaccatct aattggtgag agtttccaag ccgaggtggc tatgagcggg 180
 cgtgtgtgcc aaccacaacat gagacagccg tcaactctct ccacccgata accctcaccg 240
 ccgttgaaca gagccaaaag cataactcgt tgcttaaacg cattcgaacc aatatgtgca 300
 gccgcaaacc cagcagaccc gaaccgggtc ctccantgac ttcaacggtt catgacgggt 360
 caacttcggt ca 372

<210> 71
<211> 399
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> modified_base
<222> 1...399
<223> n=a, c, g, or t

<400> 71

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tttttttttta agtgagaacc ttaacaaatt taaccatttg aactgaaata tgaacatgta 60
aagactcatt cacacttagc aaatagggtt agaaccaaaa ctctaattat ttttatataa 120
tagggaaaaa aaagaaagaa aaattcttcc ataagtgtta gattagcttt tagtacctgt 180
gatcaccctt aacctctggt aataatacat ggagatgatt taaccagtta cacaataacc 240
caagattaca gtaaaaacat aattatgttt tatgaaacat aaagactata tgctcttgtc 300
acttatctta cctccaagct gaagcaacgg attaagcttt tctcctccca gcaaaaatgg 360
gagctcacc ctttcttctt taagggttga cttnttgca 399
```

<210> 72
<211> 307
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> modified_base
<222> 1...307
<223> n=a, c, g, or t

<400> 72

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gctatggaag gagagaagat ggttcatgtg attgatctcg atgcttctga gccagctcaa 60
tggcttgctt tgcttcaagc ttttaactct aggcctgaag gtccacctca tttgagaatc 120
actggtgttc atcaccagaa ggaagtgtt gaacaaatgg ctcatagact cattgaggaa 180
gcagagaaac tcgatatccc gtttcagttt aatcccgttg tgagtagggt agactgttta 240
aatgtagnac agtttagggt ttaaacagga gaggcnttag ccgtagctc ggttcttcaa 300
ttgcata 307
```

<210> 73
<211> 345

<212> DNA
<213> Arabidopsis thaliana

<220>
<221> modified_base
<222> 1..345
<223> n=a, c, g, or t

<400> 73

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ccgatcatca aattagttat cttcagctca aattggattt ggtttggtat tacaccaca 60
ccagacaaaa ttgaaccaac acacaaaggc ttacatgca gaggcagtag aagcatttaa 120
gccaaaatag cataaagaga cagaaagtca ccatcacaaa acaactaaga ttgtgtcccc 180
atgtatacaa aaaagaaagg gactctgctc ataaccacaaa tagaagacaa actgtaatat 240
atcattcact tcctgcatct ccaagctgat accgagtata gaggtcgatc ttgccagcaa 300
attactgccc acccgntctc ttcttgatt ctatacccat caaaa 345
```

<210> 74
<211> 406
<212> DNA
<213> Arabidopsis thaliana

<400> 74

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gtggaattac aattacagca atttgtattc aattgttgaa tctaagcctg gcttcatctc 60
tttggcctgg aacgatttac ctctcctcac tctttcttcc tggcgataac caaaccaaac 120
cgatccggta ttcttagttt tgttttgttt tcaatgttat ttttggttag acaaatattc 180
aattgttaat atactccgtg gtcagagtgt tttgttttcc ttttagttcg aacgttgaat 240
taattcaggg gtaggttttg aattctctga acctatgtg ttttttggtg acatcatttg 300
gatttgtgaa ctaggtttta aaactggctc tagtcttggt gttttctcat tagataattt 360
aaactggttt gcttctttat ttttgggttg ggataaaagt gaccgg 406
```

<210> 75
<211> 406
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> modified_base
<222> 1...406
<223> n=a, c, g, or t

<400> 75

```
gtggaattnc aattacagca atttgtattc aattgttgaa tctaagcctg gcttcatctc 60
```

tttggcctgg aacgatttac ctctcctcac tctttcttcc angcgataac caaaccaaac 120
 cgatgccggg attcttaggt ttgttttggt ttcaatgtta tttttgggta gacaaatatt 180
 caattgttaa tatactccgt ggtcagagtg ttttgtttn cttttagttc gaacgttgaa 240
 ttaattcagg ggtagggttt gaattctctg aacctnatgt gttttntggg aacatcattt 300
 ggatttgtga actagggtta aaaactggnc ttagtcttgt tgttttctca ttaggataat 360
 ttaaactggg ttgcttcttt attttnggtt gggataaagt gaccgg 406

<210> 76
 <211> 409
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...409
 <223> n=a, c, g, or t

<400> 76

caaaactaca tttcatcact tttttgagca aaattacaaa taaaagagta gttacaaata 60
 tatttggtt tcaacttcct aattttatga aatagtaatt acatctcaaa cagatgacca 120
 gaaccgggtca ctttatccaa ccaaaaataa agaagcaaac cagtttaaatt tatctaata 180
 gaaaacaaca agactaagac cagtttttaa acctagttca caaatccaaa tgatgttacc 240
 aaaaaacaca taagggttcag agaattcaaa acctaccctt ganttaattc aacgttcgaa 300
 ctaaaagaaa aacaaaacac tctgaccacg gagtatatta acatttgatt atttgtctaa 360
 ccaaaaataa cattgaaaac aaaacaaaac tanggaatac cggatcggt 409

<210> 77
 <211> 295
 <212> DNA
 <213> Arabidopsis thaliana

<400> 77

cccaacgggt cctgagcttc ttacttatat gcatatcttg tatgaagcct gcccttattt 60
 caaattcggg tatgaatctg ctaatggagc tatagctgaa gctgtgaaga acgaaagttt 120
 tgtgcacatt atcgatttcc agatttctca aggtgggtcaa tgggtgagtt tgatccgtgc 180
 tcttggtgct agacctggtg gacctccgaa cgtaggata acgggaattg atgatccgag 240
 atcatcgttt gctcgtcaag gaggacttgc agttagttgc acaaagcact tggca 295

<210> 78
 <211> 319
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...319
 <223> n=a, c, g, or t

<400> 78

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gggtcatcaa catatcactt actactacaa catttgacaa cttgttcctn cggatcatgc 60
atgagtttta cttttacaaa cagattctgc aaactttaaa agcaagtttc taatctcttc 120
tgaaaccgaa caaggttttt attagttacc tccaagcaca agaagtgata agaggttgat 180
tcttccatcc taaatacaat gctccatctc tttcttcaag tgtatacttc tctgaataac 240
tctcaagcaa tcctttgatt gttgcgttca catacgagct caaaggatac ggtttaaatac 300
ccgccatgtg aaaccgaga                                     319
```

<210> 79
 <211> 409
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1..409
 <223> n=a, c, g, or t

<400> 79

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caaaaattta tatatttggtg tgaacttaaa tttaaaaatc catcgactg agcaaaataa 60
nntcagaaac taaaaatttg tcatttaaga taaattgaat taaggaaaat atttttttta 120
taattgaaac tccggtggaa atcaggagga gcgacatctc catgctgaaa ctccgacgag 180
ttctgtcctt tgccaacata ggagaagtga gttatgtttc tcctcgacgt gaaagcctct 240
cactggcgtc cgttggntna aacactcggc ttgagactcc gtgaagttac tgtgcgtcac 300
cggtgagaaa cccatctgta gaaacatcgc ttgccacgtc atcatcggcc tttctatcgg 360
acggctacga tccaacacca gtttctctat ctccggctgt ataaggaaa         409
```

<210> 80
 <211> 457
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1..457
 <223> n=a, c, g, or t

 <400> 80

 ctatttttnac aattttat tttt gttatttagaa gtggtagtgg agtgaaaaaa caaatcctaa 60
 gcagtcctaa ccgatccccg aagctaaaga ttctncacct tcccaaataa agcaaaacct 120
 agatccgaca ttgaaggaaa aaccttttag atccatctct gaaaaaaacc aaccatgaag 180
 agagatcatc atcatcatca tcatcaagat aagaagacta tgatgatgaa tgaagaagnc 240
 gacggtaacg gcatggatga gcttctagct gttcttggtt ataagggttag gtcatccgaa 300
 atggctgatg tttgctcaga aactcgagca gcttgaagtt atgatgtcta atgttcaagn 360
 aagncgggtct ttntcaactt cgcnacttnn gactgttcac tntaatncgg cggnggtttt 420
 caacgntggc ttgntttcna tgntnaccga ccttaat 457

<210> 81
 <211> 355
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...355
 <223> n=a, c, g, or t

 <400> 81

 atgggaaagg agcatttaat ctcgactcaa ttgctctacg agctctctcc ttgtttcaaa 60
 ctcggtttcg aggccgcgaa tctcgccatt ntcgacgccg ccgataacaa cgacgggtgga 120
 atnatgatac cgcacgtaat cgatttcaat atcggagaag gtggacaata cgттаacctt 180
 ctcntacat tatccacgcg ccggaatggg aaaagtnaga gtcagaattc tccggtgggt 240
 aanatcacc cccgtggcga acaacgttta cgggatgttt agtcggatga cgggtggnga 300
 agagaggttt aaaagcccgt ncgngntttt ttttgnagcc actncngntn atccg 355

<210> 82
 <211> 381
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...381
 <223> n=a, c, g, or t

<400> 82

actcgggtatc tccgtaagtt tcaacgtggt gacgagttta cgactcgggtg atctgaatcg 60
tnaatctntc ggggtgtnatc ccgacgagac tttggctgta aacttagctt tcaagcttta 120
tcgtgttccc gacgaaagcg tatncacgga gaatccaaga cgaacttctc cggcgcgtga 180
agggacttaa accgcgcgtg gttactctag tggagcaaga aatgaattcg aatacggcgc 240
cgtttttagg gagagtaagt nagtcatgcg cgtttnacgg tgcgttnctt gantcgggtcg 300
agtctacggg tcctagtacg gatttccgac ccgtgccaaa atttnnggaa ggaatttgcc 360
cgnaannttn naaacccgggt g 381

<210> 83

<211> 533

<212> DNA

<213> *Arabidopsis thaliana*

<220>

<221> modified_base

<222> 1.533

<223> n=a, c, g, or t

<400> 83

atnaaaagtc tttttttttt ctttggtaca taagattcct acacttttcg aaatggaaaa 60
tcacaatgat aataatatca gaataatctc gaaaattaat aataatatgg taataataag 120
aagaaaaaaa aagagtgtgt gaagttaacg ccaagcggat gcgacagtga gtgcccgtcc 180
catccaacca aagcacacac ctccgttatc ttctttaacg gtaaagcccg ggtggactcg 240
gtttccacga ctcttcacg actccgctat cttctcactc aatggcatta actcaaacc 300
agccatgctc atccgcattc gccatttncc ggaacanctc gnaccgctct atacgntcga 360
ttccttcgga cggcaccgng ttttactagc ttccggncaa ttccttctn aactttggaa 420
cggtnggatt cggttcttggg accgtaggct tggcccgctt aagaacgnac cgtacagggg 480
nntgtttnt taatttcct taaaagggg cgnttttggg ttnatttttn ana 533

<210> 84

<211> 377

<212> DNA

<213> *Arabidopsis thaliana*

<220>

<221> modified_base

<222> 1...377

<223> n=a, c, g, or t

<400> 84

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caaccntttt atagtcaagc agctctcaac gctttttttt caaggtctgt naagcctcga 60
aattatcaga ntttncaatc tccgtcgccg atgattganc tcacgtcggg gaatgatatg 120
agtttntttg gnggttctgg ttcattctcag cnttacgggtt taccgggtcc caggtctcan 180
acgcaacagc aacaatcgga ttacgggttta tttggtggga tccgaatggg aatcgggtcg 240
ggatattaata attatccaac attaacgggc gttccgtgta ttgaaccggg tcaaaaccgg 300
gttcatgaat cggaggacca ttgttganta agnttaagag agctttgtng aaacaanctt 360
tttangattg atnaccg
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377

<210> 85

<211> 508

<212> DNA

<213> Arabidopsis thaliana

<220>

<221> modified_base

<222> 1...508

<223> n=a, c, g, or t

<400> 85

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atttttgaca tgcttgagac aattgtgcca cgagaagacg aagagaggat gttccttgag 120
atggaggtct ttgggagaga ggcactgaat gtaattgctt gcnaagggtg ggaaagagtg 180
gagaggcctg agacatacaa gcagtggcac gtacgggcta tgaggtcagg gttggtgcag 240
gttccatttg acccaagcat tatgaagaca tcgctgcata aggtccacac attctaccac 300
aaggattttg tgatcgggtca aagataaccg ggtggctctt tcaaggntgg aaggggaagg 360
anctgtcatg ggtctttctt ttttggaac cagagtccca aggttttncc ggaaaatcct 420
ccttggnat ttnangnccc ttttttgtt ttttnccn gnnantccc nggggnagtt 480
tccagtttna ggngngtttt tncnaaaa
```

508

<210> 86

<211> 466

<212> DNA

<213> Arabidopsis thaliana

<220>

<221> modified_base
<222> 1...466
<223> n=a, c, g, or t

<400> 86

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atggaggtct ttgggagana ggcactgaat gtaattnctt gcnaagggtg ggaaagagtg 180
gagaggcctg anacatacaa gcagtggcac gtacgggcta tgaggtcagg gttggtgcag 240
gttccatttg acccaagcat tatgaagaca tcgctgcata aggtccacac attctaccac 300
aagggttttt tgatccntcc aagataaccg gtggctcttn caaagctttg aagggaagga 360
cctttcatgg gtcttttctt ttttgaacc aggtcccaag gttttncccg gaatccccgn 420
tggaattttg nnnccccttt tgattttttt tccccgnaa ttncce 466

<210> 87
<211> 342
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> modified_base
<222> 1...342
<223> n=a, c, g, or t

<400> 87

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tccggcttga nacacagcta agcatccnat ttgcttcaca agagcttccg ctagagtcaa 120
attgtnctnc tggattgctt ctgcacaagc cataagcgcg tggactaaac gaacaccgtt 180
ctcttgcgag tnaaccagga taacagaacg anttgactca gccgccgcg tcgttgctgt 240
ggtgggtgtc gtcaccgtcg ttcctatgac tccaccaatn tgggtaccg tcgaagtcca 300
tgtaaccata ggatcagggc ttcgngcatg nttttaaac gg 342

<210> 88
<211> 321
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> modified_base
<222> 1...321
<223> n=a, c, g, or t

<400> 88

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agggaaacag atttgtaatc nggtggcttg tnaagntcct gacagagtcg agagacacga 120
aacgttgagt caatngggaa accggtttgg ttcgtccggt ttagcgccgg cacatcttgg 180
gtctaacgcg ttttaagcaag cnagtatnct tttntntgtn tttaatagtg gccaagggtta 240
tcgtgtggag gagagtaatg gatgtttgat gttgggttgg cacactnngc ccaactcattt 300
accacctccg gttttggaaa c 321
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<210> 89

<211> 490

<212> DNA

<213> *Arabidopsis thaliana*

<220>

<221> modified_base

<222> 1...490

<223> n=a, c, g, or t

<400> 89

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aatttttaac aagtgaacga aaataaataa aataaacaaa aggcaaaacg gttcgattca 120
gttcggttta ggtcttggtc cgaacatatg tcatcaccgg tccactgatc tcaatctcaa 180
attcactcgn ctcgactcca ccaccgtcgt atgcttcgag tcaaactcag tacgncgccg 240
tcgagagttt ccaagcggag gtggtaatga gtggacgagt gtgccaaccc ancatcaaac 300
atccattact ttctccaca cgntaacctt ggccactatt taaacacagg caaaangcat 360
acttgtttgc ttaaaccgcg ttagncnaa gntttgccgg gcnntaaacc cggcngaccc 420
aanceggntt tcccnatttg ctcaaacggt ttngtgnctt ttggcttttt gnatggcctt 480
taaangnncc 490
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<210> 90

<211> 422

<212> DNA

<213> *Arabidopsis thaliana*

<220>

<221> modified_base

<222> 1...422

<223> n=a, c, g, or t

<400> 90

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gtcaacngca ttcacggtt acaatacacn cctgatgaaa ctgtgtcatt agactctcca 120
agagacacgg ttctgaagct attcagagat atcaatcctg acctctttgt gtttgcagag 180
attaacggaa tgtacaactc tcctttcttc atgacgaggt tccgagaagc gcttttncat 240
tacncttcac tctttgacat gtttgacacc acaatacacg gagaggatga gtacaaaaaac 300
aggtcactgt ttggagagag agttactttt gaganacgcg nttgagcgtg attttctctgc 360
nngggnttca nancgggttt tnngggcctt aaaacctnca agaaatnggn gggttgggtt 420
tt 422

<210> 91

<211> 234

<212> DNA

<213> *Arabidopsis thaliana*

<400> 91

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caagagaaaa acaaccacca gggttggtt gtatacatat ataacttagg ttgtgttaca 120
acttaaaaca tcattgcaca tcctaaaaat ttcagcgacc agaattgtgt tttgattgtg 180
cctctttctt tatccacctc aagtaaccat cattcactat aacttaccca atct 234

<210> 92

<211> 466

<212> DNA

<213> *Arabidopsis thaliana*

<220>

<221> modified_base

<222> 1...466

<223> n=a, c, g, or t

<400> 92

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aagattgcac agggatcaca atacatgttt ttaattcagg agcttgcgaa acgccctggt 120
gggccgccgt tgctgcgtgt nacgggtgtg gatgattcan agtccaccta tgctcgtggg 180
ggaggactca gcttggtagg tgagaggctt gcaactttgg cgcagtcatt gggtgtcccg 240
tttnagtttc acgatgccat catgtctggg tgcaagggtgc agcggaaca tctcgggttg 300

gaacctgggt ttgctgttgt tgtgaacttc ccatatgtat tacaccacat gccagacgag 360
 agcgtaagtt tttgaaaatc acagngacag gcttctgcat ctnatcaana gcctttcccc 420
 aaactgggtac tctagtaggc aagattcaac acaacacttg catcna 466

<210> 93
 <211> 534
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...534
 <223> n=a, c, g, or t

<400> 93

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 acacgctatg tcacaagcat aatataacaa cattctagtg ttcaagaacc ctaactctga 120
 acttaatcca ctctgtgttg cgagagacta tcaacagaaa agccctacat aaatcccagt 180
 cgcttagaac gtaaganaca acatctatga agacgaagga acccatagag atgaagcata 240
 cacgattcta cctttccacc cttgaagtaa ccagttaccg ttttgatcaa catcgaagtt 300
 tttatcgtag ccgttttcgg attttcaact tcagattctg catcagttcc ttctcaagcg 360
 gnagctgtcc taaatccggg tcgggtcagt ctcggtggc actggttata tggctctggg 420
 ctctccactc tctctggtct tcacaaggca cancattcac aatctntttt ccataaaaact 480
 nnttttcentn catnngncnn atnttggett cctnggntg gttgggggnc ncnt 534

<210> 94
 <211> 476
 <212> DNA
 <213> Arabidopsis thaliana

<220>
 <221> modified_base
 <222> 1...476
 <223> n=a, c, g, or t

<400> 94

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 ctttattaga tattaacgac tctggatttt tgggtttttg gagttggatc cacatgggtt 120
 cttatccgga tggattccct ggatccatgg acgagttgga tttcaataag gactttgatt 180
 tgcctccctc ctcaaaccac accttaggtt tagctaattg gttctattta gatgacttag 240

atttctcatc cttggatcct ccagaggcat atccctccca gaacaacanc aacaacatca 300
tcaacaacaa agctgtagca ggagatctgt tatcatcttc aactgaatga cgntggattc 360
tctgattctg ttttgagtat ataagccaag ttctnatggg agnnggtnat gnagagaagc 420
ctttgtatgt tcatgnngnt ttggtgnatta agntgctnng aaannactcn ntnngc 476

<210> 95
<211> 3510
<212> DNA
<213> Zea mays

<220>
<221> CDS
<222> (293)..(1855)

<220>
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<222> (2703)..(3143)

<400> 95

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ccggactgac tgactgactg tgggtggtggt ggtgcatcag cagcccgcgc ggcgcacaaa 120
cacgcaaaact gctccctccc tcaactaccc ctatcccccg cgctgggtcg cccgatcgcc 180
atgcgcgcgg cggttcctc ttggcgtttc tagatgggct cctcctctc cctcctcttc 240
tcctcgctct cctccgcgc atccaccgcc cccactcct ttcccactc tc atg cca 298
Met Pro
1

ccg cca ccg cct ccg cct cct ctc act cct tat tgc cgc cgc tgc cct 346
Pro Pro Pro Pro Pro Pro Pro Leu Thr Pro Tyr Cys Arg Arg Cys Pro
5 10 15

ccc cca cac ctc cct ccg cct cct cct tct tcc cca aac cac ttc ctc 394
Pro Pro His Leu Pro Pro Pro Pro Pro Ser Ser Pro Asn His Phe Leu
20 25 30

ctc cac tac ctc cat cag cta gac cac caa gaa gcc gcc gcc gcc gcc 442
Leu His Tyr Leu His Gln Leu Asp His Gln Glu Ala Ala Ala Ala Ala
35 40 45 50

atg gtc cgc aag cgc ccc gcg tcc gac atg gac ctc ccg ccg ccg cgc 490
Met Val Arg Lys Arg Pro Ala Ser Asp Met Asp Leu Pro Pro Pro Arg
55 60 65

cgc cac gtc acg ggc gac ctc tcc gac gtc acg gcg gcc gct gcc gcc 538
Arg His Val Thr Gly Asp Leu Ser Asp Val Thr Ala Ala Ala Ala Ala
70 75 80

ggg gtt ggt ggt agt ggc gcg ccg tcc tcc gcc agc gcg cag ctg ccc 586
Gly Val Gly Gly Ser Gly Ala Pro Ser Ser Ala Ser Ala Gln Leu Pro

85					90					95						
gcg	ctg	ccc	acc	cag	ctc	cac	cag	ctg	ccc	ccc	gcg	ttc	cag	cac	cac	634
Ala	Leu	Pro	Thr	Gln	Leu	His	Gln	Leu	Pro	Pro	Ala	Phe	Gln	His	His	
100			105			110										
gcg	ccg	gag	gtg	gac	gtg	ccc	gcg	cac	ccg	gcc	ccg	gcc	gcc	cac	gcg	682
Ala	Pro	Glu	Val	Asp	Val	Pro	Ala	His	Pro	Ala	Pro	Ala	Ala	His	Ala	
115		120		125		130										
cag	gcg	ggc	ggc	gag	gca	acc	gcg	tcc	acg	acc	gcg	tgg	gtg	gac	ggc	730
Gln	Ala	Gly	Gly	Glu	Ala	Thr	Ala	Ser	Thr	Thr	Ala	Trp	Val	Asp	Gly	
135			140			145										
atc	atc	cgc	gac	atc	atc	ggg	agc	agc	ggc	ggc	gcc	gcg	gtc	tcc	atc	778
Ile	Ile	Arg	Asp	Ile	Ile	Gly	Ser	Ser	Gly	Gly	Ala	Ala	Val	Ser	Ile	
150			155			160										
acg	cag	ctc	atc	cac	aac	gtc	cgc	gag	atc	atc	cac	ccc	tgc	aac	ccc	826
Thr	Gln	Leu	Ile	His	Asn	Val	Arg	Glu	Ile	Ile	His	Pro	Cys	Asn	Pro	
165			170			175										
ggc	ctc	gcg	tcg	ctc	ctg	gag	ctc	cgc	ctc	cgc	tcc	ctc	ctc	gca	gcc	874
Gly	Leu	Ala	Ser	Leu	Leu	Glu	Leu	Arg	Leu	Arg	Ser	Leu	Leu	Ala	Ala	
180		185		190												
gac	ccg	gcc	cca	ctg	ccg	ccg	ccg	ccg	cag	ccg	cag	cag	cat	gct	ctc	922
Asp	Pro	Ala	Pro	Leu	Pro	Pro	Pro	Pro	Gln	Pro	Gln	Gln	His	Ala	Leu	
195		200		205												
ctg	cac	ggc	gct	ccg	gcc	gcc	gct	ccc	gcg	ggg	ctg	acg	ctc	cct	ccc	970
Leu	His	Gly	Ala	Pro	Ala	Ala	Ala	Pro	Ala	Gly	Leu	Thr	Leu	Pro	Pro	
215			220			225										
ccg	cca	ccg	ctt	ccg	gac	aag	cgc	cgc	cac	gag	cat	cca	ccg	ccg	tgc	1018
Pro	Pro	Pro	Leu	Pro	Asp	Lys	Arg	Arg	His	Glu	His	Pro	Pro	Pro	Cys	
230			235			240										
cag	cag	caa	cag	cag	gag	gaa	ccg	cat	ccg	gcg	ccg	cag	tcg	ccc	aag	1066
Gln	Gln	Gln	Gln	Gln	Glu	Glu	Pro	His	Pro	Ala	Pro	Gln	Ser	Pro	Lys	
245			250			255										
gcc	ccg	acc	gcg	gaa	gag	acc	gca	gcg	gcg	gcc	gcc	gcc	gca	caa	gca	1114
Ala	Pro	Thr	Ala	Glu	Glu	Thr	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Gln	Ala	
260		265		270												
gca	gct	gct	gcg	gcc	gcc	aag	gag	cgg	aag	gag	gag	cag	cgg	cgg	aag	1162
Ala	Ala	Ala	Ala	Ala	Ala	Lys	Glu	Arg	Lys	Glu	Glu	Gln	Arg	Arg	Lys	
275		280		285												
cag	cgc	gac	gag	gag	ggc	ctc	cac	ctg	ctg	acg	ctg	ctg	ctg	cag	tgc	1210
Gln	Arg	Asp	Glu	Glu	Gly	Leu	His	Leu	Leu	Thr	Leu	Leu	Leu	Gln	Cys	
295			300			305										
gcc	gag	gcc	gtg	aac	gcg	gac	aac	ctg	gac	gac	gcg	cac	cag	acg	ctg	1258
Ala	Glu	Ala	Val	Asn	Ala	Asp	Asn	Leu	Asp	Asp	Ala	His	Gln	Thr	Leu	
310			315			320										

ctg gag atc gcg gag cta gcg acg ccg ttc ggc acc tcg acg cag cgc	1306
Leu Glu Ile Ala Glu Leu Ala Thr Pro Phe Gly Thr Ser Thr Gln Arg	
325 330 335	
gtg gcc gcc tac ttc gcg gag gcc atg tcg gcg cgg ctc gtc agc tcc	1354
Val Ala Ala Tyr Phe Ala Glu Ala Met Ser Ala Arg Leu Val Ser Ser	
340 345 350	
tgc ctg ggc ctg tac gcg ccg ctg ccg ccg ggc tcc ccc gcc gcg gcg	1402
Cys Leu Gly Leu Tyr Ala Pro Leu Pro Pro Gly Ser Pro Ala Ala Ala	
355 360 365 370	
cgc ctc cac ggc cgc gtc gcc gcc gcg ttc cag gtg ttc aac ggc atc	1450
Arg Leu His Gly Arg Val Ala Ala Ala Phe Gln Val Phe Asn Gly Ile	
375 380 385	
agc ccc ttc gtc aag ttc tcg cac ttc acc gcc aac cag gcc atc cag	1498
Ser Pro Phe Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala Ile Gln	
390 395 400	
gag gcg ttc gag cgg gag gag cgc gtg cac atc atc gac ctc gac atc	1546
Glu Ala Phe Glu Arg Glu Glu Arg Val His Ile Ile Asp Leu Asp Ile	
405 410 415	
atg cag ggg ctg cag tgg ccg ggg ctc ttc cac atc ctt gcc tcc cgc	1594
Met Gln Gly Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg	
420 425 430	
ccc ggg ggc ccg ccc agg gtg agg ctc acc ggc ctc ggg gcg tcc atg	1642
Pro Gly Gly Pro Pro Arg Val Arg Leu Thr Gly Leu Gly Ala Ser Met	
435 440 445 450	
gag gcg ctc gag gcc acg ggg aag cgc ctc tcc gat ttc gcc gac acg	1690
Glu Ala Leu Glu Ala Thr Gly Lys Arg Leu Ser Asp Phe Ala Asp Thr	
455 460 465	
ctc ggc ctg ccc ttc gag ttc tgc gcc gtc gcc gag aag gcc ggc aat	1738
Leu Gly Leu Pro Phe Glu Phe Cys Ala Val Ala Glu Lys Ala Gly Asn	
470 475 480	
gtt gac ccg gag aag cta ggg gtc acg agg cgg gag gcc gtc gcc gtc	1786
Val Asp Pro Glu Lys Leu Gly Val Thr Arg Arg Glu Ala Val Ala Val	
485 490 495	
cac tgg ctg cac cac tcg ctc tac gac gtc act ggc tcc gac tcc aac	1834
His Trp Leu His His Ser Leu Tyr Asp Val Thr Gly Ser Asp Ser Asn	
500 505 510	
acg ctc tgg ctc atc caa agg taggaaggag tacaccatct ctcgatcctg	1885
Thr Leu Trp Leu Ile Gln Arg	
515 520	
acttccttgc taccatgtca aatcttgatg caatcatggc cacttttccag ctactaacac	1945
tttagtttag ccaatgcgac atccagtaca actaatctaa aaaaataatc ttcagagggtt	2005
tcctagtaaa aaaaccgcgt ttttgagct caaaaagctt gtcattatga ccaaccaact	2065

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cattgggtcat	tgattccatc	ccccacacac	ctgcagg	ctg gcc ccc aag gtg gtg		2720
				Leu Ala Pro Lys Val Val		
				525		
aca atg gtg gag cag gac ctg agc cac tcg ggc tcc ttc ctg gcg cgc						2768
Thr Met Val Glu Gln Asp Leu Ser His Ser Gly Ser Phe Leu Ala Arg						
	530			535		540
ttc gtg gag gcc atc cac tac tac tcg gcg ctg ttc gac tcg ctg gac						2816
Phe Val Glu Ala Ile His Tyr Tyr Ser Ala Leu Phe Asp Ser Leu Asp						
	545			550		555
gcg agc tac ggc gag gac agc ccc gag cgg cac gtc gtg gag cag cag						2864
Ala Ser Tyr Gly Glu Asp Ser Pro Glu Arg His Val Val Glu Gln Gln						
	560			565		570 575
ctg ctg tcg cgg gag atc cgc aac gtg ctg gcc gtg ggc ggg ccg gcc						2912
Leu Leu Ser Arg Glu Ile Arg Asn Val Leu Ala Val Gly Gly Pro Ala						
		580				585 590
cgc acc ggc gac gtc aag ttc ggc agc tgg cgc gag aag ctg gcg cag						2960
Arg Thr Gly Asp Val Lys Phe Gly Ser Trp Arg Glu Lys Leu Ala Gln						
		595				600 605
tcc ggg ttc cgc gcc gcc tcg ctc gcc ggc agc gcc gcg gcg cag gcg						3008
Ser Gly Phe Arg Ala Ala Ser Leu Ala Gly Ser Ala Ala Ala Gln Ala						
	610					615 620
tcc ctg ctg ctc ggc atg ttc ccc tcc gac ggg tac acg ctg gtg gag						3056
Ser Leu Leu Leu Gly Met Phe Pro Ser Asp Gly Tyr Thr Leu Val Glu						
	625					630 635
gag aac ggc gcg ctg aag ctc ggg tgg aag gac ctc tgc ctg ctc acc						3104
Glu Asn Gly Ala Leu Lys Leu Gly Trp Lys Asp Leu Cys Leu Leu Thr						
	640					645 650 655
gcg tcg gcc tgg cgc ccc atc cag gtg ccg ccg tgc cgt tgatgagacc						3153
Ala Ser Ala Trp Arg Pro Ile Gln Val Pro Pro Cys Arg						

tctgectgct cctgcttgcg ttgagaggcc gccactccac ttgttttgca tctgtagctg 3213
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 agatccatcc attcacagtg atagttactg atgtactaag ctttaattag ttcaatgcta 3333
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<210> 96
 <211> 668
 <212> PRT
 <213> Zea mays

<400> 96
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 Cys Pro Pro Pro His Leu Pro Pro Pro Pro Ser Ser Pro Asn His
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 Phe Leu Leu His Tyr Leu His Gln Leu Asp His Gln Glu Ala Ala Ala
 35 40 45
 Ala Ala Met Val Arg Lys Arg Pro Ala Ser Asp Met Asp Leu Pro Pro
 50 55 60
 Pro Arg Arg His Val Thr Gly Asp Leu Ser Asp Val Thr Ala Ala Ala
 65 70 75 80
 Ala Ala Gly Val Gly Gly Ser Gly Ala Pro Ser Ser Ala Ser Ala Gln
 85 90 95
 Leu Pro Ala Leu Pro Thr Gln Leu His Gln Leu Pro Pro Ala Phe Gln
 100 105 110
 His His Ala Pro Glu Val Asp Val Pro Ala His Pro Ala Pro Ala Ala
 115 120 125
 His Ala Gln Ala Gly Gly Glu Ala Thr Ala Ser Thr Thr Ala Trp Val
 130 135 140
 Asp Gly Ile Ile Arg Asp Ile Ile Gly Ser Ser Gly Gly Ala Ala Val
 145 150 155 160
 Ser Ile Thr Gln Leu Ile His Asn Val Arg Glu Ile Ile His Pro Cys
 165 170 175
 Asn Pro Gly Leu Ala Ser Leu Leu Glu Leu Arg Leu Arg Ser Leu Leu
 180 185 190
 Ala Ala Asp Pro Ala Pro Leu Pro Pro Pro Pro Gln Pro Gln Gln His
 195 200 205
 Ala Leu Leu His Gly Ala Pro Ala Ala Ala Pro Ala Gly Leu Thr Leu
 210 215 220
 Pro Pro Pro Pro Pro Leu Pro Asp Lys Arg Arg His Glu His Pro Pro
 225 230 235 240
 Pro Cys Gln Gln Gln Gln Gln Glu Glu Pro His Pro Ala Pro Gln Ser
 245 250 255
 Pro Lys Ala Pro Thr Ala Glu Glu Thr Ala Ala Ala Ala Ala Ala Ala
 260 265 270
 Gln Ala Ala Ala Ala Ala Ala Ala Lys Glu Arg Lys Glu Glu Gln Arg
 275 280 285
 Arg Lys Gln Arg Asp Glu Glu Gly Leu His Leu Leu Thr Leu Leu Leu

290		295		300
Gln Cys Ala Glu Ala Val	Asn Ala Asp Asn Leu Asp Asp Ala His Gln			
305	310	315		320
Thr Leu Leu Glu Ile Ala	Glu Leu Ala Thr Pro Phe Gly Thr Ser Thr			
	325	330		335
Gln Arg Val Ala Ala Tyr Phe	Ala Glu Ala Met Ser Ala Arg Leu Val			
	340	345		350
Ser Ser Cys Leu Gly Leu Tyr	Ala Pro Leu Pro Pro Gly Ser Pro Ala			
	355	360		365
Ala Ala Arg Leu His Gly Arg	Val Ala Ala Ala Phe Gln Val Phe Asn			
	370	375		380
Gly Ile Ser Pro Phe Val Lys	Phe Ser His Phe Thr Ala Asn Gln Ala			
385	390	395		400
Ile Gln Glu Ala Phe Glu Arg	Glu Glu Arg Val His Ile Ile Asp Leu			
	405	410		415
Asp Ile Met Gln Gly Leu Gln	Trp Pro Gly Leu Phe His Ile Leu Ala			
	420	425		430
Ser Arg Pro Gly Gly Pro Pro	Arg Val Arg Leu Thr Gly Leu Gly Ala			
	435	440		445
Ser Met Glu Ala Leu Glu Ala	Thr Gly Lys Arg Leu Ser Asp Phe Ala			
	450	455		460
Asp Thr Leu Gly Leu Pro Phe	Glu Phe Cys Ala Val Ala Glu Lys Ala			
465	470	475		480
Gly Asn Val Asp Pro Glu Lys	Leu Gly Val Thr Arg Arg Glu Ala Val			
	485	490		495
Ala Val His Trp Leu His His	Ser Leu Tyr Asp Val Thr Gly Ser Asp			
	500	505		510
Ser Asn Thr Leu Trp Leu Ile	Gln Arg Leu Ala Pro Lys Val Val Thr			
	515	520		525
Met Val Glu Gln Asp Leu Ser	His Ser Gly Ser Phe Leu Ala Arg Phe			
	530	535		540
Val Glu Ala Ile His Tyr Tyr	Ser Ala Leu Phe Asp Ser Leu Asp Ala			
545	550	555		560
Ser Tyr Gly Glu Asp Ser Pro	Glu Arg His Val Val Glu Gln Gln Leu			
	565	570		575
Leu Ser Arg Glu Ile Arg Asn	Val Leu Ala Val Gly Gly Pro Ala Arg			
	580	585		590
Thr Gly Asp Val Lys Phe Gly	Ser Trp Arg Glu Lys Leu Ala Gln Ser			
	595	600		605
Gly Phe Arg Ala Ala Ser Leu	Ala Gly Ser Ala Ala Gln Ala Ser			
	610	615		620
Leu Leu Leu Gly Met Phe Pro	Ser Asp Gly Tyr Thr Leu Val Glu Glu			
625	630	635		640
Asn Gly Ala Leu Lys Leu Gly	Trp Lys Asp Leu Cys Leu Leu Thr Ala			
	645	650		655
Ser Ala Trp Arg Pro Ile Gln	Val Pro Pro Cys Arg			
	660	665		

<210> 97
 <211> 521
 <212> PRT
 <213> Zea mays

<400> 97

Met	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Leu	Thr	Pro	Tyr	Cys	Arg	Arg
1				5						10					15	

Cys Pro Pro Pro His Leu Pro Pro Pro Pro Pro Ser Ser Pro Asn His
 20 25 30
 Phe Leu Leu His Tyr Leu His Gln Leu Asp His Gln Glu Ala Ala Ala
 35 40 45
 Ala Ala Met Val Arg Lys Arg Pro Ala Ser Asp Met Asp Leu Pro Pro
 50 55 60
 Pro Arg Arg His Val Thr Gly Asp Leu Ser Asp Val Thr Ala Ala Ala
 65 70 75 80
 Ala Ala Gly Val Gly Gly Ser Gly Ala Pro Ser Ser Ala Ser Ala Gln
 85 90 95
 Leu Pro Ala Leu Pro Thr Gln Leu His Gln Leu Pro Pro Ala Phe Gln
 100 105 110
 His His Ala Pro Glu Val Asp Val Pro Ala His Pro Ala Pro Ala Ala
 115 120 125
 His Ala Gln Ala Gly Gly Glu Ala Thr Ala Ser Thr Thr Ala Trp Val
 130 135 140
 Asp Gly Ile Ile Arg Asp Ile Ile Gly Ser Ser Gly Gly Ala Ala Val
 145 150 155 160
 Ser Ile Thr Gln Leu Ile His Asn Val Arg Glu Ile Ile His Pro Cys
 165 170 175
 Asn Pro Gly Leu Ala Ser Leu Leu Glu Leu Arg Leu Arg Ser Leu Leu
 180 185 190
 Ala Ala Asp Pro Ala Pro Leu Pro Pro Pro Pro Gln Pro Gln Gln His
 195 200 205
 Ala Leu Leu His Gly Ala Pro Ala Ala Ala Pro Ala Gly Leu Thr Leu
 210 215 220
 Pro Pro Pro Pro Pro Leu Pro Asp Lys Arg Arg His Glu His Pro Pro
 225 230 235 240
 Pro Cys Gln Gln Gln Gln Gln Glu Glu Pro His Pro Ala Pro Gln Ser
 245 250 255
 Pro Lys Ala Pro Thr Ala Glu Glu Thr Ala Ala Ala Ala Ala Ala Ala
 260 265 270
 Gln Ala Ala Ala Ala Ala Ala Lys Glu Arg Lys Glu Glu Gln Arg
 275 280 285
 Arg Lys Gln Arg Asp Glu Glu Gly Leu His Leu Leu Thr Leu Leu Leu
 290 295 300
 Gln Cys Ala Glu Ala Val Asn Ala Asp Asn Leu Asp Asp Ala His Gln
 305 310 315 320
 Thr Leu Leu Glu Ile Ala Glu Leu Ala Thr Pro Phe Gly Thr Ser Thr

	325		330		335
Gln Arg Val	Ala Ala Tyr Phe Ala	Glu Ala Met Ser Ala	Arg Leu Val		
	340	345	350		
Ser Ser Cys	Leu Gly Leu Tyr Ala	Pro Leu Pro Pro Gly	Ser Pro Ala		
	355	360	365		
Ala Ala Arg	Leu His Gly Arg Val	Ala Ala Ala Phe	Gln Val Phe Asn		
	370	375	380		
Gly Ile Ser	Pro Phe Val Lys Phe Ser	His Phe Thr Ala	Asn Gln Ala		
385	390	395	400		
Ile Gln Glu	Ala Phe Glu Arg Glu Glu	Arg Val His Ile Ile	Asp Leu		
	405	410	415		
Asp Ile Met	Gln Gly Leu Gln Trp Pro	Gly Leu Phe His Ile	Leu Ala		
	420	425	430		
Ser Arg Pro	Gly Gly Pro Pro Arg	Val Arg Leu Thr Gly	Leu Gly Ala		
	435	440	445		
Ser Met Glu	Ala Leu Glu Ala Thr	Gly Lys Arg Leu Ser	Asp Phe Ala		
	450	455	460		
Asp Thr Leu	Gly Leu Pro Phe Glu Phe	Cys Ala Val Ala Glu	Lys Ala		
465	470	475	480		
Gly Asn Val	Asp Pro Glu Lys Leu Gly	Val Thr Arg Arg Glu	Ala Val		
	485	490	495		
Ala Val His	Trp Leu His His Ser	Leu Tyr Asp Val Thr	Gly Ser Asp		
	500	505	510		
Ser Asn Thr	Leu Trp Leu Ile Gln Arg				
	515	520			

<210> 98
 <211> 147
 <212> PRT
 <213> Zea mays

<400> 98

Leu Ala Pro	Lys Val Val Thr Met	Val Glu Gln Asp	Leu Ser His Ser
1	5	10	15
Gly Ser Phe	Leu Ala Arg Phe Val	Glu Ala Ile His Tyr	Tyr Ser Ala
	20	25	30
Leu Phe Asp	Ser Leu Asp Ala Ser	Tyr Gly Glu Asp	Ser Pro Glu Arg
	35	40	45
His Val Val	Glu Gln Gln Leu Ser	Arg Glu Ile Arg	Asn Val Leu
	50	55	60

Ala Val Gly Gly Pro Ala Arg Thr Gly Asp Val Lys Phe Gly Ser Trp
65 70 75 80

Arg Glu Lys Leu Ala Gln Ser Gly Phe Arg Ala Ala Ser Leu Ala Gly
85 90 95

Ser Ala Ala Ala Gln Ala Ser Leu Leu Leu Gly Met Phe Pro Ser Asp
100 105 110

Gly Tyr Thr Leu Val Glu Glu Asn Gly Ala Leu Lys Leu Gly Trp Lys
115 120 125

Asp Leu Cys Leu Leu Thr Ala Ser Ala Trp Arg Pro Ile Gln Val Pro
130 135 140

Pro Cys Arg
145

<210> 99
<211> 668
<212> PRT
<213> Zea mays

<400> 99

Met Pro Pro Pro Pro Pro Pro Pro Pro Leu Thr Pro Tyr Cys Arg Arg
1 5 10 15

Cys Pro Pro Pro His Leu Pro Pro Pro Pro Pro Ser Ser Pro Asn His
20 25 30

Phe Leu Leu His Tyr Leu His Gln Leu Asp His Gln Glu Ala Ala Ala
35 40 45

Ala Ala Met Val Arg Lys Arg Pro Ala Ser Asp Met Asp Leu Pro Pro
50 55 60

Pro Arg Arg His Val Thr Gly Asp Leu Ser Asp Val Thr Ala Ala Ala
65 70 75 80

Ala Ala Gly Val Gly Gly Ser Gly Ala Pro Ser Ser Ala Ser Ala Gln
85 90 95

Leu Pro Ala Leu Pro Thr Gln Leu His Gln Leu Pro Pro Ala Phe Gln
100 105 110

His His Ala Pro Glu Val Asp Val Pro Ala His Pro Ala Pro Ala Ala
115 120 125

His Ala Gln Ala Gly Gly Glu Ala Thr Ala Ser Thr Thr Ala Trp Val
130 135 140

Asp Gly Ile Ile Arg Asp Ile Ile Gly Ser Ser Gly Gly Ala Ala Val
145 150 155 160

Ser Ile Thr Gln Leu Ile His Asn Val Arg Glu Ile Ile His Pro Cys
165 170 175

Asn	Pro	Gly	Leu	Ala	Ser	Leu	Leu	Glu	Leu	Arg	Leu	Arg	Ser	Leu	Leu	180	185	190
Ala	Ala	Asp	Pro	Ala	Pro	Leu	Pro	Pro	Pro	Pro	Gln	Pro	Gln	Gln	His	195	200	205
Ala	Leu	Leu	His	Gly	Ala	Pro	Ala	Ala	Ala	Pro	Ala	Gly	Leu	Thr	Leu	210	215	220
Pro	Pro	Pro	Pro	Pro	Leu	Pro	Asp	Lys	Arg	Arg	His	Glu	His	Pro	Pro	225	230	235
Pro	Cys	Gln	Gln	Gln	Gln	Gln	Glu	Glu	Pro	His	Pro	Ala	Pro	Gln	Ser	245	250	255
Pro	Lys	Ala	Pro	Thr	Ala	Glu	Glu	Thr	Ala	Ala	Ala	Ala	Ala	Ala	Ala	260	265	270
Gln	Ala	Ala	Ala	Ala	Ala	Ala	Ala	Lys	Glu	Arg	Lys	Glu	Glu	Gln	Arg	275	280	285
Arg	Lys	Gln	Arg	Asp	Glu	Glu	Gly	Leu	His	Leu	Leu	Thr	Leu	Leu	Leu	290	295	300
Gln	Cys	Ala	Glu	Ala	Val	Asn	Ala	Asp	Asn	Leu	Asp	Asp	Ala	His	Gln	305	310	315
Thr	Leu	Leu	Glu	Ile	Ala	Glu	Leu	Ala	Thr	Pro	Phe	Gly	Thr	Ser	Thr	325	330	335
Gln	Arg	Val	Ala	Ala	Tyr	Phe	Ala	Glu	Ala	Met	Ser	Ala	Arg	Leu	Val	340	345	350
Ser	Ser	Cys	Leu	Gly	Leu	Tyr	Ala	Pro	Leu	Pro	Pro	Gly	Ser	Pro	Ala	355	360	365
Ala	Ala	Arg	Leu	His	Gly	Arg	Val	Ala	Ala	Ala	Phe	Gln	Val	Phe	Asn	370	375	380
Gly	Ile	Ser	Pro	Phe	Val	Lys	Phe	Ser	His	Phe	Thr	Ala	Asn	Gln	Ala	385	390	395
Ile	Gln	Glu	Ala	Phe	Glu	Arg	Glu	Glu	Arg	Val	His	Ile	Ile	Asp	Leu	405	410	415
Asp	Ile	Met	Gln	Gly	Leu	Gln	Trp	Pro	Gly	Leu	Phe	His	Ile	Leu	Ala	420	425	430
Ser	Arg	Pro	Gly	Gly	Pro	Pro	Arg	Val	Arg	Leu	Thr	Gly	Leu	Gly	Ala	435	440	445
Ser	Met	Glu	Ala	Leu	Glu	Ala	Thr	Gly	Lys	Arg	Leu	Ser	Asp	Phe	Ala	450	455	460
Asp	Thr	Leu	Gly	Leu	Pro	Phe	Glu	Phe	Cys	Ala	Val	Ala	Glu	Lys	Ala	465	470	475
																480		

Gly Asn Val Asp Pro Glu Lys Leu Gly Val Thr Arg Arg Glu Ala Val
 485 490 495
 Ala Val His Trp Leu His His Ser Leu Tyr Asp Val Thr Gly Ser Asp
 500 505 510
 Ser Asn Thr Leu Trp Leu Ile Gln Arg Leu Ala Pro Lys Val Val Thr
 515 520 525
 Met Val Glu Gln Asp Leu Ser His Ser Gly Ser Phe Leu Ala Arg Phe
 530 535 540
 Val Glu Ala Ile His Tyr Tyr Ser Ala Leu Phe Asp Ser Leu Asp Ala
 545 550 555 560
 Ser Tyr Gly Glu Asp Ser Pro Glu Arg His Val Val Glu Gln Gln Leu
 565 570 575
 Leu Ser Arg Glu Ile Arg Asn Val Leu Ala Val Gly Gly Pro Ala Arg
 580 585 590
 Thr Gly Asp Val Lys Phe Gly Ser Trp Arg Glu Lys Leu Ala Gln Ser
 595 600 605
 Gly Phe Arg Ala Ala Ser Leu Ala Gly Ser Ala Ala Ala Gln Ala Ser
 610 615 620
 Leu Leu Leu Gly Met Phe Pro Ser Asp Gly Tyr Thr Leu Val Glu Glu
 625 630 635 640
 Asn Gly Ala Leu Lys Leu Gly Trp Lys Asp Leu Cys Leu Leu Thr Ala
 645 650 655
 Ser Ala Trp Arg Pro Ile Gln Val Pro Pro Cys Arg
 660 665

<210> 100
 <211> 653
 <212> PRT
 <213> Arabidopsis thaliana

<400> 100

Met Ala Glu Ser Gly Asp Phe Asn Gly Gly Gln Pro Pro Pro His Ser
 1 5 10 15
 Pro Leu Arg Thr Thr Ser Ser Gly Ser Ser Ser Ser Asn Asn Arg Gly
 20 25 30
 Pro Pro Pro Pro Pro Pro Pro Leu Val Met Val Arg Lys Arg Leu
 35 40 45
 Ala Ser Glu Met Ser Ser Asn Pro Asp Tyr Asn Asn Ser Ser Arg Pro
 50 55 60
 Pro Arg Arg Val Ser His Leu Leu Asp Ser Asn Tyr Asn Thr Val Thr
 65 70 75 80

Pro Gln Gln Pro Pro Ser Leu Thr Ala Ala Ala Thr Val Ser Ser Gln
 85 90 95
 Pro Asn Pro Pro Leu Ser Val Cys Gly Phe Ser Gly Leu Pro Val Phe
 100 105 110
 Pro Ser Asp Arg Gly Gly Arg Asn Val Met Met Ser Val Gln Pro Met
 115 120 125
 Asp Gln Asp Ser Ser Ser Ser Ser Ala Ser Pro Thr Val Trp Val Asp
 130 135 140
 Ala Ile Ile Arg Asp Leu Ile His Ser Ser Thr Ser Val Ser Ile Pro
 145 150 155 160
 Gln Leu Ile Gln Asn Val Arg Asp Ile Ile Phe Pro Cys Asn Pro Asn
 165 170 175
 Leu Gly Ala Leu Leu Glu Tyr Arg Leu Arg Ser Leu Met Leu Leu Asp
 180 185 190
 Pro Ser Ser Ser Ser Asp Pro Ser Pro Gln Thr Phe Glu Pro Leu Tyr
 195 200 205
 Gln Ile Ser Asn Asn Pro Ser Pro Pro Gln Gln Gln Gln Gln His Gln
 210 215 220
 Gln Gln Gln Gln Gln His Lys Pro Pro Pro Pro Pro Ile Gln Gln Gln
 225 230 235 240
 Glu Arg Glu Asn Ser Ser Thr Asp Ala Pro Pro Gln Pro Glu Thr Val
 245 250 255
 Thr Ala Thr Val Pro Ala Val Gln Thr Asn Thr Ala Glu Ala Leu Arg
 260 265 270
 Glu Arg Lys Glu Glu Ile Lys Arg Gln Lys Gln Asp Glu Glu Gly Leu
 275 280 285
 His Leu Leu Thr Leu Leu Leu Gln Cys Ala Glu Ala Val Ser Ala Asp
 290 295 300
 Asn Leu Glu Glu Ala Asn Lys Leu Leu Leu Glu Ile Ser Gln Leu Ser
 305 310 315 320
 Thr Pro Tyr Gly Thr Ser Ala Gln Arg Val Ala Ala Tyr Phe Ser Glu
 325 330 335
 Ala Met Ser Ala Arg Leu Leu Asn Ser Cys Leu Gly Ile Tyr Ala Ala
 340 345 350
 Leu Pro Ser Arg Trp Met Pro Gln Thr His Ser Leu Lys Met Val Ser
 355 360 365
 Ala Phe Gln Val Phe Asn Gly Ile Ser Pro Leu Val Lys Phe Ser His
 370 375 380

Phe Thr Ala Asn Gln Ala Ile Gln Glu Ala Phe Glu Lys Glu Asp Ser
385 390 395 400
Val His Ile Ile Asp Leu Asp Ile Met Gln Gly Leu Gln Trp Pro Gly
405 410 415
Leu Phe His Ile Leu Ala Ser Arg Pro Gly Gly Pro Pro His Val Arg
420 425 430
Leu Thr Gly Leu Gly Thr Ser Met Glu Ala Leu Gln Ala Thr Gly Lys
435 440 445
Arg Leu Ser Asp Phe Thr Asp Lys Leu Gly Leu Pro Phe Glu Phe Cys
450 455 460
Pro Leu Ala Glu Lys Val Gly Asn Leu Asp Thr Glu Arg Leu Asn Val
465 470 475 480
Arg Lys Arg Glu Ala Val Ala Val His Trp Leu Gln His Ser Leu Tyr
485 490 495
Asp Val Thr Gly Ser Asp Ala His Thr Leu Trp Leu Leu Gln Arg Leu
500 505 510
Ala Pro Lys Val Val Thr Val Val Glu Gln Asp Leu Ser His Ala Gly
515 520 525
Ser Phe Leu Gly Arg Phe Val Glu Ala Ile His Tyr Tyr Ser Ala Leu
530 535 540
Phe Asp Ser Leu Gly Ala Ser Tyr Gly Glu Glu Ser Glu Glu Arg His
545 550 555 560
Val Val Glu Gln Gln Leu Leu Ser Lys Glu Ile Arg Asn Val Leu Ala
565 570 575
Val Gly Gly Pro Ser Arg Ser Gly Glu Val Lys Phe Glu Ser Trp Arg
580 585 590
Glu Lys Met Gln Gln Cys Gly Phe Lys Gly Ile Ser Leu Ala Gly Asn
595 600 605
Ala Ala Thr Gln Ala Thr Leu Leu Leu Gly Met Phe Pro Ser Asp Gly
610 615 620
Tyr Thr Leu Val Asp Asp Asn Gly Thr Leu Lys Leu Gly Trp Lys Asp
625 630 635 640
Leu Ser Leu Leu Thr Ala Ser Ala Trp Thr Pro Arg Ser
645 650

<210> 101
<211> 295
<212> PRT
<213> Zea mays
<400> 101

Gly	Arg	Val	Ala	Ala	Ala	Phe	Gln	Val	Phe	Asn	Gly	Ile	Ser	Pro	Phe	1	5	10	15
Val	Lys	Phe	Ser	His	Phe	Thr	Ala	Asn	Gln	Ala	Ile	Gln	Glu	Ala	Phe	20	25	30	
Glu	Arg	Glu	Glu	Arg	Val	His	Ile	Ile	Asp	Leu	Asp	Ile	Met	Gln	Gly	35	40	45	
Leu	Gln	Trp	Pro	Gly	Leu	Phe	His	Ile	Leu	Ala	Ser	Arg	Pro	Gly	Gly	50	55	60	
Pro	Pro	Arg	Val	Arg	Leu	Thr	Gly	Leu	Gly	Ala	Ser	Met	Glu	Ala	Leu	65	70	75	80
Glu	Ala	Thr	Gly	Lys	Arg	Leu	Ser	Asp	Phe	Ala	Asp	Thr	Leu	Gly	Leu	85	90	95	
Pro	Phe	Glu	Phe	Cys	Ala	Val	Ala	Glu	Lys	Ala	Gly	Asn	Val	Asp	Pro	100	105	110	
Glu	Lys	Leu	Gly	Val	Thr	Arg	Arg	Glu	Ala	Val	Ala	Val	His	Trp	Leu	115	120	125	
His	His	Ser	Leu	Tyr	Asp	Val	Thr	Gly	Ser	Asp	Ser	Asn	Thr	Leu	Trp	130	135	140	
Leu	Ile	Gln	Arg	Leu	Ala	Pro	Lys	Val	Val	Thr	Met	Val	Glu	Gln	Asp	145	150	155	160
Leu	Ser	His	Ser	Gly	Ser	Phe	Leu	Ala	Arg	Phe	Val	Glu	Ala	Ile	His	165	170	175	
Tyr	Tyr	Ser	Ala	Leu	Phe	Asp	Ser	Leu	Asp	Ala	Ser	Tyr	Gly	Glu	Asp	180	185	190	
Ser	Pro	Glu	Arg	His	Val	Val	Glu	Gln	Gln	Leu	Leu	Ser	Arg	Glu	Ile	195	200	205	
Arg	Asn	Val	Leu	Ala	Val	Gly	Gly	Pro	Ala	Arg	Thr	Gly	Asp	Val	Lys	210	215	220	
Phe	Gly	Ser	Trp	Arg	Glu	Lys	Leu	Ala	Gln	Ser	Gly	Phe	Arg	Ala	Ala	225	230	235	240
Ser	Leu	Ala	Gly	Ser	Ala	Ala	Ala	Gln	Ala	Ser	Leu	Leu	Leu	Gly	Met	245	250	255	
Phe	Pro	Ser	Asp	Gly	Tyr	Thr	Leu	Val	Glu	Glu	Asn	Gly	Ala	Leu	Lys	260	265	270	
Leu	Gly	Trp	Lys	Asp	Leu	Cys	Leu	Leu	Thr	Ala	Ser	Ala	Trp	Arg	Pro	275	280	285	
Ile	Gln	Val	Pro	Pro	Cys	Arg	290	295											

<210> 102
 <211> 308
 <212> PRT
 <213> Zea mays

<400> 102

Arg	Arg	Val	Ala	Val	Ala	Phe	Gln	Ala	Tyr	Asn	Ala	Leu	Ser	Pro	Leu
1				5					10					15	
Val	Lys	Phe	Ser	His	Phe	Thr	Ala	Asn	Gln	Ala	Ile	Leu	Gln	Ala	Leu
			20					25					30		
Asp	Gly	Glu	Asp	Cys	Leu	His	Val	Ile	Asp	Leu	Asp	Ile	Met	Gln	Gly
		35					40					45			
Leu	Gln	Trp	Pro	Gly	Leu	Phe	His	Ile	Leu	Ala	Ser	Arg	Pro	Arg	Lys
	50					55						60			
Pro	Arg	Ser	Leu	Arg	Ile	Thr	Gly	Leu	Gly	Ala	Ser	Leu	Asp	Val	Leu
	65				70					75					80
Glu	Ala	Thr	Gly	Arg	Arg	Leu	Ala	Asp	Phe	Ala	Ala	Ser	Leu	Gly	Leu
				85					90					95	
Pro	Phe	Glu	Phe	Arg	Pro	Ile	Glu	Gly	Lys	Ile	Gly	His	Val	Ala	Asp
			100					105					110		
Ala	Ala	Ala	Leu	Leu	Gly	Ser	Arg	Gln	Arg	Arg	Arg	Asp	Asp	Glu	Ala
		115					120					125			
Thr	Val	Val	His	Trp	Met	His	His	Cys	Leu	Tyr	Asp	Val	Thr	Gly	Ser
	130					135					140				
Asp	Val	Gly	Thr	Val	Arg	Leu	Leu	Arg	Ser	Leu	Arg	Pro	Lys	Leu	Ile
145					150					155					160
Thr	Ile	Val	Glu	Gln	Asp	Leu	Gly	His	Ser	Gly	Asp	Phe	Leu	Gly	Arg
				165					170					175	
Phe	Val	Glu	Ala	Leu	His	Tyr	Tyr	Ser	Ala	Leu	Phe	Asp	Ala	Leu	Gly
			180					185					190		
Asp	Gly	Ala	Gly	Ala	Ala	Glu	Glu	Glu	Ser	Ala	Glu	Arg	Tyr	Ala	Val
		195					200					205			
Glu	Arg	Gln	Leu	Leu	Gly	Ala	Glu	Ile	Arg	Asn	Ile	Val	Ala	Val	Gly
	210					215					220				
Gly	Pro	Lys	Arg	Thr	Gly	Glu	Val	Arg	Val	Glu	Arg	Trp	Ser	His	Glu
225					230					235					240
Leu	Arg	His	Ala	Gly	Phe	Arg	Pro	Val	Ser	Leu	Ala	Gly	Ser	Pro	Ala
				245					250					255	
Ala	Gln	Ala	Arg	Leu	Leu	Leu	Gly	Met	Tyr	Pro	Trp	Lys	Gly	Tyr	Thr
			260					265					270		

Leu Val Glu Glu Asp Ala Cys Leu Lys Leu Gly Trp Lys Asp Leu Ser
 275 280 285

Leu Leu Thr Ala Ser Ala Trp Glu Pro Ala Asp Asp Ala Ala Ala Ser
 290 295 300

Ala Pro Thr Gly
 305

<210> 103

<211> 290

<212> PRT

<213> Arabidopsis thaliana

<400> 103

Leu Lys Met Val Ser Ala Phe Gln Val Phe Asn Gly Ile Ser Pro Leu
 1 5 10 15

Val Lys Phe Ser His Phe Thr Ala Asn Gln Ala Ile Gln Glu Ala Phe
 20 25 30

Glu Lys Glu Asp Ser Val His Ile Ile Asp Leu Asp Ile Met Gln Gly
 35 40 45

Leu Gln Trp Pro Gly Leu Phe His Ile Leu Ala Ser Arg Pro Gly Gly
 50 55 60

Pro Pro His Val Arg Leu Thr Gly Leu Gly Thr Ser Met Glu Ala Leu
 65 70 75 80

Gln Ala Thr Gly Lys Arg Leu Ser Asp Phe Thr Asp Lys Leu Gly Leu
 85 90 95

Pro Phe Glu Phe Cys Pro Leu Ala Glu Lys Val Gly Asn Leu Asp Thr
 100 105 110

Glu Arg Leu Asn Val Arg Lys Arg Glu Ala Val Ala Val His Trp Leu
 115 120 125

Gln His Ser Leu Tyr Asp Val Thr Gly Ser Asp Ala His Thr Leu Trp
 130 135 140

Leu Leu Gln Arg Leu Ala Pro Lys Val Val Thr Val Val Glu Gln Asp
 145 150 155 160

Leu Ser His Ala Gly Ser Phe Leu Gly Arg Phe Val Glu Ala Ile His
 165 170 175

Tyr Tyr Ser Ala Leu Phe Asp Ser Leu Gly Ala Ser Tyr Gly Glu Glu
 180 185 190

Ser Glu Glu Arg His Val Val Glu Gln Gln Leu Leu Ser Lys Glu Ile
 195 200 205

Arg Asn Val Leu Ala Val Gly Gly Pro Ser Arg Ser Gly Glu Val Lys
 210 215 220

Phe Glu Ser Trp Arg Glu Lys Met Gln Gln Cys Gly Phe Lys Gly Ile
 225 230 235 240
 Ser Leu Ala Gly Asn Ala Ala Thr Gln Ala Thr Leu Leu Leu Gly Met
 245 250 255
 Phe Pro Ser Asp Gly Tyr Thr Leu Val Asp Asp Asn Gly Thr Leu Lys
 260 265 270
 Leu Gly Trp Lys Asp Leu Ser Leu Leu Thr Ala Ser Ala Trp Thr Pro
 275 280 285
 Arg Ser
 290

<210> 104
 <211> 969
 <212> DNA
 <213> Zea mays

<400> 104

gcggccgcgc agagccgccg cgtggcggtg gcgttccagg cgtacaacgc gctgtcgccg 60
 ctcgctcaagt tctcgcaactt cacggccaac caggccatcc tgcaggcgct cgacggcgag 120
 gactgcctcc acgtgatcga cctggacatc atgcagggcc tgcagtggcc ggggctcttc 180
 cacatcctcg cgtcccgcgc gcgcaagccg cggtcgctcc ggatcaccgg gctcggcgcg 240
 tcgctcgacg tcctcgaggc cactggccgc cgcctcgccg acttcgcggc ctcgctcggc 300
 ctcccgttcg agttccgcgc catcgagggg aagatcgggc acgtcgccga cgccgcggcg 360
 ctctcgggct cgcgccagcg gcggcgggat gacgaggcca ccgtggtgca ctggatgcac 420
 cactgcctct atgacgtgac ggggtcggac gtgggcacgg tgcggctgct ccggagcctg 480
 cgcccgaagc tgatcaccat cgtggagcag gacctgggac acagcggcga tttcctgggc 540
 cggttcgtgg aggcgctgca ctactactcg gcgctgttcg acgcgctggg agacggcgcc 600
 ggcgcggccg aggaggagtc ggccgagcgg tacgcggttg agcgacagct cctgggcgcg 660
 gagatacgca acatcgtagc cgtagggggg cccaagcgga caggggaggt gcgcgtggag 720
 cggtaggagcc acgaactgag gcacgccggg ttccggccag tgtccctggc cgggagccct 780
 gccgcgcagg ccaggctgct cctcggcatg tatccgtgga aggggtacac gctggtggag 840
 gaggacgcgt gccttaagct gggctggaag gacctctccc tgctcaccgc gtcggcgtgg 900
 gagccggcgg acgacgctgc cgcttctgag cccaccggtt aacgagtacg agcggacgcg 960
 tgggtcgac 969

<210> 105
 <211> 323
 <212> PRT
 <213> Zea mays

<220>
 <221> SITE
 <222> 1...323
 <223> Xaa=unknown amino acid

<400> 105

Ala	Ala	Ala	Gln	Ser	Arg	Arg	Val	Ala	Val	Ala	Phe	Gln	Ala	Tyr	Asn
1				5					10					15	
Ala	Leu	Ser	Pro	Leu	Val	Lys	Phe	Ser	His	Phe	Thr	Ala	Asn	Gln	Ala
			20					25					30		
Ile	Leu	Gln	Ala	Leu	Asp	Gly	Glu	Asp	Cys	Leu	His	Val	Ile	Asp	Leu
		35					40					45			
Asp	Ile	Met	Gln	Gly	Leu	Gln	Trp	Pro	Gly	Leu	Phe	His	Ile	Leu	Ala
	50					55					60				
Ser	Arg	Pro	Arg	Lys	Pro	Arg	Ser	Leu	Arg	Ile	Thr	Gly	Leu	Gly	Ala
65					70					75					80
Ser	Leu	Asp	Val	Leu	Glu	Ala	Thr	Gly	Arg	Arg	Leu	Ala	Asp	Phe	Ala
				85					90					95	
Ala	Ser	Leu	Gly	Leu	Pro	Phe	Glu	Phe	Arg	Pro	Ile	Glu	Gly	Lys	Ile
			100					105					110		
Gly	His	Val	Ala	Asp	Ala	Ala	Ala	Leu	Leu	Gly	Ser	Arg	Gln	Arg	Arg
		115					120					125			
Arg	Asp	Asp	Glu	Ala	Thr	Val	Val	His	Trp	Met	His	His	Cys	Leu	Tyr
	130					135					140				
Asp	Val	Thr	Gly	Ser	Asp	Val	Gly	Thr	Val	Arg	Leu	Leu	Arg	Ser	Leu
145					150					155					160
Arg	Pro	Lys	Leu	Ile	Thr	Ile	Val	Glu	Gln	Asp	Leu	Gly	His	Ser	Gly
				165					170					175	
Asp	Phe	Leu	Gly	Arg	Phe	Val	Glu	Ala	Leu	His	Tyr	Tyr	Ser	Ala	Leu
			180					185					190		
Phe	Asp	Ala	Leu	Gly	Asp	Gly	Ala	Gly	Ala	Ala	Glu	Glu	Glu	Ser	Ala
		195					200					205			
Glu	Arg	Tyr	Ala	Val	Glu	Arg	Gln	Leu	Leu	Gly	Ala	Glu	Ile	Arg	Asn
	210					215					220				
Ile	Val	Ala	Val	Gly	Gly	Pro	Lys	Arg	Thr	Gly	Glu	Val	Arg	Val	Glu
225					230					235					240

Arg Trp Ser His Glu Leu Arg His Ala Gly Phe Arg Pro Val Ser Leu
 245 250 255
 Ala Gly Ser Pro Ala Ala Gln Ala Arg Leu Leu Leu Gly Met Tyr Pro
 260 265 270
 Trp Lys Gly Tyr Thr Leu Val Glu Glu Asp Ala Cys Leu Lys Leu Gly
 275 280 285
 Trp Lys Asp Leu Ser Leu Leu Thr Ala Ser Ala Trp Glu Pro Ala Asp
 290 295 300
 Asp Ala Ala Ala Ser Ala Pro Thr Gly Xaa Arg Val Arg Ala Asp Ala
 305 310 315 320
 Trp Val Asp

<210> 106
 <211> 352
 <212> PRT
 <213> Zea mays

<400> 106

Leu Ser Met Val Asn Glu Leu Arg Gln Ile Val Ser Ile Gln Gly Asp
 1 5 10 15
 Pro Ser Gln Arg Ile Ala Ala Tyr Met Val Glu Gly Leu Ala Ala Arg
 20 25 30
 Met Ala Ala Ser Gly Lys Phe Ile Tyr Arg Ala Leu Lys Cys Lys Glu
 35 40 45
 Pro Pro Ser Asp Glu Arg Leu Ala Ala Met Gln Val Leu Phe Glu Val
 50 55 60
 Cys Pro Cys Phe Lys Phe Gly Phe Leu Ala Ala Asn Gly Ala Ile Leu
 65 70 75 80
 Glu Ala Ile Lys Gly Glu Glu Glu Val His Ile Ile Asp Phe Asp Ile
 85 90 95
 Asn Gln Gly Asn Gln Tyr Met Thr Leu Ile Arg Ser Ile Ala Glu Leu
 100 105 110
 Pro Gly Lys Arg Pro Arg Leu Arg Leu Thr Gly Ile Asp Asp Pro Glu
 115 120 125
 Ser Val Gln Arg Ser Ile Gly Gly Leu Arg Ile Ile Gly Leu Arg Leu
 130 135 140
 Glu Gln Leu Ala Glu Asp Asn Gly Val Ser Phe Lys Phe Lys Ala Met
 145 150 155 160
 Pro Ser Lys Thr Ser Ile Val Ser Pro Ser Thr Leu Gly Cys Lys Pro

Asp Ile Pro Phe Gln Phe Asn Pro Val Val Ser Arg Leu Asp Cys Leu
 65 70 75 80
 Asn Val Glu Gln Leu Arg Val Lys Thr Gly Glu Ala Leu Ala Val Ser
 85 90 95
 Ser Val Leu Gln Leu His Thr Phe Leu Ala Ser Asp Asp Asp Leu Met
 100 105 110
 Arg Lys Asn Cys Ala Leu Arg Phe His Asn Asn Pro Ser Gly Val Asp
 115 120 125
 Leu Gln Arg Val Leu Met Met Ser His Gly Ser Ala Ala Glu Ala Arg
 130 135 140
 Glu Asn Asp Met Ser Asn Asn Asn Gly Tyr Ser Pro Ser Gly Asp Ser
 145 150 155 160
 Ala Ser Ser Leu Pro Leu Pro Ser Ser Gly Arg Thr Asp Ser Phe Leu
 165 170 175
 Asn Ala Ile Trp Gly Leu Ser Pro Lys Val Met Val Val Thr Glu Gln
 180 185 190
 Asp Ser Asp His Asn Gly Ser Thr Leu Met Glu Arg Leu Leu Glu Ser
 195 200 205
 Leu Tyr Thr Tyr Ala Ala Leu Phe Asp Cys Leu Glu Thr Lys Val Pro
 210 215 220
 Arg Thr Ser Gln Asp Arg Ile Lys Val Glu Lys Met Leu Phe Gly Glu
 225 230 235 240
 Glu Ile Lys Asn Ile Ile Ser Cys Glu Gly Phe Glu Arg Arg Glu Arg
 245 250 255
 His Glu Lys Leu Glu Lys Trp Ser Gln Arg Ile Asp Leu Ala Gly Phe
 260 265 270
 Gly Asn Val Pro Leu Ser Tyr Tyr Ala Met Leu Gln Ala Arg Arg Leu
 275 280 285
 Leu Gln Gly Cys Gly Phe Asp Gly Tyr Arg Ile Lys Glu Glu Ser Gly
 290 295 300
 Cys Ala Val Ile Cys Trp Gln Asp Arg Pro Leu Tyr Ser Val Ser Ala
 305 310 315 320
 Trp Arg Cys Arg Lys
 325

<210> 108

<211> 306

<212> PRT

<213> *Arabidopsis thaliana*

<400> 108

Gly	Thr	Ser	Pro	Thr	Gly	Pro	Glu	Leu	Leu	Thr	Tyr	Met	His	Ile	Leu	1	5	10	15
Tyr	Glu	Ala	Cys	Pro	Tyr	Phe	Lys	Phe	Gly	Tyr	Glu	Ser	Ala	Asn	Gly	20	25	30	
Ala	Ile	Ala	Glu	Ala	Val	Lys	Asn	Glu	Ser	Phe	Val	His	Ile	Ile	Asp	35	40	45	
Phe	Gln	Ile	Ser	Gln	Gly	Gly	Gln	Trp	Val	Ser	Leu	Ile	Arg	Ala	Leu	50	55	60	
Gly	Ala	Arg	Pro	Gly	Gly	Pro	Pro	Asn	Val	Arg	Ile	Thr	Gly	Ile	Asp	65	70	75	80
Asp	Pro	Arg	Ser	Ser	Phe	Ala	Arg	Gln	Gly	Gly	Leu	Glu	Leu	Val	Gly	85	90	95	
Gln	Arg	Leu	Gly	Lys	Leu	Ala	Glu	Met	Cys	Gly	Val	Pro	Phe	Glu	Phe	100	105	110	
His	Gly	Ala	Ala	Leu	Phe	Cys	Thr	Glu	Val	Glu	Ile	Glu	Lys	Leu	Gly	115	120	125	
Val	Arg	Asn	Gly	Glu	Ala	Leu	Ala	Val	Asn	Phe	Pro	Leu	Val	Leu	His	130	135	140	
His	Met	Pro	Asp	Glu	Ser	Val	Thr	Val	Glu	Asn	His	Arg	Asp	Arg	Leu	145	150	155	160
Leu	Arg	Leu	Val	Lys	His	Leu	Ser	Pro	Asn	Val	Val	Thr	Leu	Val	Glu	165	170	175	
Gln	Glu	Ala	Asn	Thr	Asn	Thr	Ala	Pro	Phe	Leu	Pro	Arg	Phe	Val	Glu	180	185	190	
Thr	Met	Asn	His	Tyr	Leu	Ala	Val	Phe	Glu	Ser	Ile	Asp	Val	Lys	Leu	195	200	205	
Ala	Arg	Asp	His	Lys	Glu	Arg	Ile	Asn	Val	Glu	Gln	His	Cys	Leu	Ala	210	215	220	
Arg	Glu	Val	Glu	Asn	Leu	Ile	Ala	Cys	Glu	Gly	Val	Glu	Arg	Glu	Glu	225	230	235	240
Arg	His	Glu	Pro	Leu	Gly	Lys	Trp	Arg	Ser	Arg	Phe	His	Met	Ala	Gly	245	250	255	
Phe	Lys	Pro	Tyr	Pro	Leu	Ser	Ser	Tyr	Val	Asn	Ala	Thr	Ile	Lys	Gly	260	265	270	
Leu	Leu	Glu	Ser	Tyr	Ser	Glu	Lys	Tyr	Thr	Leu	Glu	Glu	Arg	Asp	Gly	275	280	285	
Ala	Leu	Tyr	Leu	Gly	Trp	Lys	Asn	Gln	Pro	Leu	Ile	Thr	Ser	Cys	Ala	290	295	300	
Trp	Arg																		

305

<210> 109

<211> 378

<212> PRT

<213> Arabidopsis thaliana

<400> 109

Ala Ala Ile Phe Tyr Gly His His His His Thr Pro Pro Pro Ala Lys
1 5 10 15

Arg Leu Asn Pro Gly Pro Val Gly Ile Thr Glu Gln Leu Val Lys Ala
20 25 30

Ala Glu Val Ile Glu Ser Asp Thr Cys Leu Ala Gln Gly Ile Leu Ala
35 40 45

Arg Leu Asn Gln Gln Leu Ser Ser Pro Val Gly Lys Pro Leu Glu Arg
50 55 60

Ala Ala Phe Tyr Phe Lys Glu Ala Leu Asn Asn Leu Leu His Asn Val
65 70 75 80

Ser Gln Thr Leu Asn Pro Tyr Ser Leu Ile Phe Lys Ile Ala Ala Tyr
85 90 95

Lys Ser Phe Ser Glu Ile Ser Pro Val Leu Gln Phe Ala Asn Phe Thr
100 105 110

Ser Asn Gln Ala Leu Leu Glu Ser Phe His Gly Phe His Arg Leu His
115 120 125

Ile Ile Asp Phe Asp Ile Gly Tyr Gly Gly Gln Trp Ala Ser Leu Met
130 135 140

Gln Glu Leu Val Leu Arg Asp Asn Ala Ala Pro Leu Ser Leu Lys Ile
145 150 155 160

Thr Val Phe Ala Ser Pro Ala Asn His Asp Gln Leu Glu Leu Gly Phe
165 170 175

Thr Gln Asp Asn Leu Lys His Phe Ala Ser Glu Ile Asn Ile Ser Leu
180 185 190

Asp Ile Gln Val Leu Ser Leu Asp Leu Leu Gly Ser Ile Ser Trp Pro
195 200 205

Asn Ser Ser Glu Lys Glu Ala Val Ala Val Asn Ile Ser Ala Ala Ser
210 215 220

Phe Ser His Leu Pro Leu Val Leu Arg Phe Val Lys His Leu Ser Pro
225 230 235 240

Thr Ile Ile Val Cys Ser Asp Arg Gly Cys Glu Arg Thr Asp Leu Pro
245 250 255

Phe Ser Gln Gln Leu Ala His Ser Leu His Ser His Thr Ala Leu Phe
 260 265 270
 Glu Ser Leu Asp Ala Val Asn Ala Asn Leu Asp Ala Met Gln Lys Ile
 275 280 285
 Glu Arg Phe Leu Ile Gln Pro Glu Ile Glu Lys Leu Val Leu Asp Arg
 290 295 300
 Ser Arg Pro Ile Glu Arg Pro Met Met Thr Trp Gln Ala Met Phe Leu
 305 310 315 320
 Gln Met Gly Phe Ser Pro Val Thr His Ser Asn Phe Thr Glu Ser Gln
 325 330 335
 Ala Glu Cys Leu Val Gln Arg Thr Pro Val Arg Gly Phe His Val Glu
 340 345 350
 Lys Lys His Asn Ser Leu Leu Leu Cys Trp Gln Arg Thr Glu Leu Val
 355 360 365
 Gly Val Ser Ala Trp Arg Cys Arg Ser Ser
 370 375

<210> 110
 <211> 189
 <212> PRT
 <213> Arabidopsis thaliana

<400> 110

Lys Lys Trp Glu Thr Ile Thr Leu Asp Glu Leu Met Ile Asn Pro Gly
 1 5 10 15
 Glu Thr Thr Val Val Asn Cys Ile His Arg Leu Gln Tyr Thr Pro Asp
 20 25 30
 Glu Thr Val Ser Leu Asp Ser Pro Arg Asp Thr Val Leu Lys Leu Phe
 35 40 45
 Arg Asp Ile Asn Pro Asp Leu Phe Val Phe Ala Glu Ile Asn Gly Met
 50 55 60
 Tyr Asn Ser Pro Phe Phe Met Thr Arg Phe Arg Glu Ala Leu Phe His
 65 70 75 80
 Tyr Ser Ser Leu Phe Asp Met Phe Asp Thr Thr Ile His Cys Glu Arg
 85 90 95
 Arg Asp Glu Val Ile Ser Cys Glu Gly Ala Glu Arg Phe Ala Arg Pro
 100 105 110
 Glu Thr Tyr Lys Gln Trp Arg Val Arg Ile Leu Arg Ala Gly Phe Lys
 115 120 125
 Pro Ala Thr Ile Ser Lys Gln Ile Met Lys Glu Ala Lys Glu Ile Val
 130 135 140

Arg Lys Arg Tyr His Arg Asp Phe Val Ile Asp Ser Asp Asn Asn Trp
 145 150 155 160

Met Leu Gln Gly Trp Lys Gly Arg Val Ile Tyr Ala Phe Ser Cys Trp
 165 170 175

Lys Pro Ala Glu Lys Phe Thr Asn Asn Asn Leu Asn Ile
 180 185

<210> 111

<211> 284

<212> PRT

<213> Arabidopsis thaliana

<400> 111

Ala Asn Val Glu Ile Leu Glu Ala Ile Ala Gly Glu Thr Arg Val His
 1 5 10 15

Ile Ile Asp Phe Gln Ile Ala Gln Gly Ser Gln Tyr Met Phe Leu Ile
 20 25 30

Gln Glu Leu Ala Lys Arg Pro Gly Gly Pro Pro Leu Leu Arg Val Thr
 35 40 45

Gly Val Asp Asp Ser Gln Ser Thr Tyr Ala Arg Gly Gly Gly Leu Ser
 50 55 60

Leu Val Gly Glu Arg Leu Ala Thr Leu Ala Gln Ser Cys Gly Val Pro
 65 70 75 80

Phe Glu Phe His Asp Ala Ile Met Ser Gly Cys Lys Val Gln Arg Glu
 85 90 95

His Leu Gly Leu Glu Pro Gly Phe Ala Val Val Val Asn Phe Pro Tyr
 100 105 110

Val Leu His His Met Pro Asp Glu Ser Val Ser Val Glu Lys Tyr Arg
 115 120 125

Asp Arg Leu Leu His Leu Ile Lys Ser Leu Ser Pro Lys Leu Val Thr
 130 135 140

Leu Val Glu Gln Glu Ser Asn Thr Asn Thr Ser Pro Leu Val Ser Arg
 145 150 155 160

Phe Val Glu Thr Leu Asp Tyr Tyr Thr Ala Met Phe Glu Ser Ile Asp
 165 170 175

Ala Ala Arg Pro Arg Asp Asp Lys Gln Arg Ile Ser Ala Glu Gln His
 180 185 190

Cys Val Ala Arg Asp Ile Val Asn Met Ile Ala Cys Glu Glu Ser Glu
 195 200 205

Arg Val Glu Arg His Glu Val Leu Gly Lys Trp Arg Val Arg Met Met

210	215	220
Met Ala Gly Phe Thr Gly Trp Pro Val Ser Thr Ser Ala Ala Phe Ala		
225	230	235 240
Ala Ser Glu Met Leu Lys Ala Tyr Asp Lys Asn Tyr Lys Leu Gly Gly		
	245	250 255
His Glu Gly Ala Leu Tyr Leu Phe Trp Lys Arg Arg Pro Met Ala Thr		
	260	265 270
Cys Ser Val Trp Lys Pro Asn Pro Asn Tyr Ile Gly		
275	280	

<210> 112
 <211> 808
 <212> PRT
 <213> Arabidopsis thaliana

 <220>
 <221> SITE
 <222> 1...808
 <223> Xaa=unknown amino acid

 <400> 112

Leu Leu Lys Val Leu Leu Cys His Leu Val Ala Glu Ser Thr Lys Arg
1 5 10 15
Arg Ile Lys Ile Arg Pro Leu Leu Asp Ile Asn Asp Ser Gly Phe Leu
20 25 30
Gly Phe Trp Ser Trp Ile His Met Gly Ser Tyr Pro Asp Gly Phe Pro
35 40 45
Gly Ser Met Asp Glu Leu Asp Phe Asn Lys Asp Phe Asp Leu Pro Pro
50 55 60
Ser Ser Asn Gln Thr Leu Gly Leu Ala Asn Gly Phe Tyr Leu Asp Asp
65 70 75 80
Leu Asp Phe Ser Ser Leu Asp Pro Pro Glu Ala Tyr Pro Ser Gln Asn
85 90 95
Asn Asn Asn Asn Asn Ile Asn Asn Lys Ala Val Ala Gly Asp Leu Leu
100 105 110
Ser Ser Ser Ser Asp Asp Ala Asp Phe Ser Asp Ser Val Leu Lys Tyr
115 120 125
Ile Ser Gln Val Leu Met Glu Glu Asp Met Glu Glu Lys Pro Cys Met
130 135 140
Phe His Asp Ala Leu Ala Leu Gln Ala Ala Glu Lys Ser Leu Tyr Glu
145 150 155 160

Ala Leu Gly Glu Lys Asp Pro Ser Ser Ser Ser Ala Ser Ser Val Asp
 165 170 175
 His Pro Glu Arg Leu Ala Ser His Ser Pro Asp Gly Ser Cys Ser Gly
 180 185 190
 Gly Ala Phe Ser Asp Tyr Ala Ser Thr Thr Thr Thr Thr Ser Ser Asp
 195 200 205
 Ser His Trp Ser Val Asp Gly Leu Glu Asn Arg Pro Ser Trp Leu His
 210 215 220
 Thr Pro Met Pro Ser Asn Phe Val Phe Gln Ser Thr Ser Arg Ser Asn
 225 230 235 240
 Ser Val Thr Gly Gly Gly Gly Gly Gly Asn Ser Ala Val Tyr Gly Ser
 245 250 255
 Gly Phe Gly Asp Asp Leu Val Ser Asn Met Phe Lys Asp Asp Glu Leu
 260 265 270
 Ala Met Gln Phe Lys Lys Gly Val Glu Glu Ala Ser Lys Phe Leu Pro
 275 280 285
 Lys Ser Ser Gln Leu Phe Ile Asp Val Asp Ser Tyr Ile Pro Met Asn
 290 295 300
 Ser Gly Ser Lys Glu Asn Gly Ser Glu Val Phe Val Lys Thr Glu Lys
 305 310 315 320
 Lys Asp Glu Thr Glu His His His His His Ser Tyr Ala Pro Pro Pro
 325 330 335
 Asn Arg Leu Thr Gly Lys Lys Ser His Trp Arg Asp Glu Asp Glu Asp
 340 345 350
 Phe Val Glu Glu Arg Ser Asn Lys Gln Ser Ala Val Tyr Val Glu Glu
 355 360 365
 Ser Glu Leu Ser Glu Met Phe Asp Asn Met Phe Leu Cys Gly Pro Gly
 370 375 380
 Lys Pro Val Cys Ile Leu Asn Gln Asn Phe Pro Thr Glu Ser Ala Lys
 385 390 395 400
 Val Val Thr Ala Gln Ser Asn Gly Ala Lys Ile Arg Gly Lys Lys Ser
 405 410 415
 Thr Ser Thr Ser His Ser Asn Asp Ser Lys Lys Glu Thr Ala Asp Leu
 420 425 430
 Arg Thr Leu Leu Val Leu Cys Ala Gln Ala Val Ser Val Asp Asp Arg
 435 440 445
 Arg Thr Ala Asn Val Xaa Leu Arg Gln Ile Arg Glu His Ser Ser Pro
 450 455 460
 Leu Gly Asn Gly Ser Glu Arg Leu Ala His Tyr Phe Ala Asn Ser Leu

465		470		475		480
Glu Ala Arg Leu	Ala Gly Thr Gly Thr	Gln Ile Tyr Thr	Ala Leu Ser			
	485	490	495			
Ser Lys Lys Thr	Ser Ala Ala Asp	Met Leu Lys Ala Tyr	Gln Thr Tyr			
	500	505	510			
Met Ser Val Cys	Pro Phe Lys Lys	Ala Ala Ile Ile	Phe Ala Asn His			
	515	520	525			
Ser Met Met Arg	Phe Thr Ala Asn	Ala Asn Thr Ile	His Ile Ile Asp			
	530	535	540			
Phe Gly Ile Ser	Tyr Gly Phe Gln Trp	Pro Ala Leu Ile	His Arg Leu			
545	550	555	560			
Ser Leu Ser Arg	Pro Gly Gly Ser	Pro Lys Leu Arg	Ile Thr Gly Ile			
	565	570	575			
Glu Leu Pro Gln	Arg Gly Phe Arg	Pro Ala Glu Glu	Phe Arg Arg Gln			
	580	585	590			
Val Ile Ala Trp	Leu Asp Thr Val	Ser Asp Thr Met	Phe Arg Leu Ser			
	595	600	605			
Thr Thr Gln Leu	Leu Arg Asn Gly	Glu Thr Ile Gln	Val Glu Asp Leu			
	610	615	620			
Lys Leu Arg Gln	Gly Glu Tyr Val	Val Val Asn Ser	Leu Phe Arg Phe			
625	630	635	640			
Arg Asn Leu Leu	Asp Glu Thr Val	Leu Val Asn Ser	Pro Arg Asp Ala			
	645	650	655			
Val Leu Lys Leu	Ile Arg Lys Ile	Asn Pro Asn Val	Phe Ile Pro Ala			
	660	665	670			
Ile Leu Ser Gly	Asn Tyr Asn Ala	Pro Phe Phe Val	Thr Arg Phe Arg			
	675	680	685			
Glu Ala Leu Phe	His Tyr Ser Ala	Val Phe Asp Met	Cys Asp Ser Lys			
	690	695	700			
Leu Ala Arg Glu	Asp Glu Met Arg	Leu Met Tyr Val	Phe Glu Phe Tyr			
705	710	715	720			
Gly Arg Glu Ile	Val Asn Val Val	Ala Ser Glu Gly	Thr Glu Arg Val			
	725	730	735			
Glu Ser Arg Glu	Thr Tyr Lys Gln	Trp Gln Ala Arg	Leu Ile Arg Ala			
	740	745	750			
Gly Phe Arg Gln	Leu Pro Leu Glu	Lys Glu Leu Met	Gln Asn Leu Lys			
	755	760	765			
Leu Lys Ile Glu	Asn Gly Tyr Asp	Lys Asn Phe Asp	Val Asp Gln Asn			
	770	775	780			

Gly Asn Trp Leu Leu Gln Gly Trp Lys Gly Arg Ile Val Tyr Ala Ser
 785 790 795 800

Ser Leu Trp Val Pro Ser Ser Ser
 805

<210> 113

<211> 377

<212> PRT

<213> Arabidopsis thaliana

<400> 113

Glu	Val	Val	Asp	Leu	Arg	Ser	Leu	Leu	Ile	His	Cys	Ala	Gln	Ala	Val
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Ala	Ala	Asp	Asp	Arg	Arg	Cys	Ala	Gly	Gln	Leu	Leu	Lys	Gln	Ile	Arg
			20					25					30		
Leu	His	Ser	Thr	Pro	Phe	Gly	Asp	Gly	Asn	Gln	Arg	Leu	Ala	His	Cys
		35					40					45			
Phe	Ala	Asn	Gly	Leu	Glu	Ala	Arg	Leu	Ala	Gly	Thr	Gly	Ser	Gln	Ile
	50					55				60					
Tyr	Lys	Gly	Ile	Val	Ser	Lys	Pro	Arg	Ser	Ala	Ala	Ala	Val	Leu	Lys
	65				70				75						80
Ala	His	Gln	Leu	Phe	Leu	Ala	Cys	Cys	Pro	Phe	Arg	Lys	Leu	Ser	Tyr
				85					90					95	
Phe	Ile	Thr	Asn	Lys	Thr	Ile	Arg	Asp	Leu	Val	Gly	Asn	Ser	Gln	Arg
			100					105					110		
Val	His	Val	Ile	Asp	Phe	Gly	Ile	Leu	Tyr	Gly	Phe	Gln	Trp	Pro	Thr
		115				120						125			
Leu	Ile	His	Arg	Phe	Ser	Met	Tyr	Gly	Ser	Pro	Lys	Val	Arg	Ile	Thr
	130					135				140					
Gly	Ile	Glu	Phe	Pro	Gln	Pro	Gly	Phe	Arg	Pro	Ala	Gln	Arg	Val	Glu
	145				150				155					160	
Glu	Thr	Gly	Gln	Arg	Leu	Ala	Ala	Tyr	Ala	Lys	Leu	Phe	Gly	Val	Pro
				165				170						175	
Phe	Glu	Tyr	Lys	Ala	Ile	Ala	Lys	Lys	Trp	Asp	Ala	Ile	Gln	Leu	Glu
			180					185					190		
Asp	Leu	Asp	Ile	Asp	Arg	Asp	Glu	Ile	Thr	Val	Val	Asn	Cys	Leu	Tyr
	195					200						205			
Arg	Ala	Glu	Asn	Leu	His	Asp	Glu	Ser	Val	Lys	Val	Glu	Ser	Cys	Arg
	210					215					220				
Asp	Thr	Val	Leu	Asn	Leu	Ile	Gly	Lys	Ile	Asn	Pro	Asp	Leu	Phe	Val
	225			230					235					240	
Phe	Gly	Ile	Val	Asn	Gly	Ala	Tyr	Asn	Ala	Pro	Phe	Phe	Val	Thr	Arg
			245					250						255	
Phe	Arg	Glu	Ala	Leu	Phe	His	Phe	Ser	Ser	Ile	Phe	Asp	Met	Leu	Glu
			260					265					270		
Thr	Ile	Val	Pro	Arg	Glu	Asp	Glu	Glu	Arg	Met	Phe	Leu	Glu	Met	Glu
	275					280						285			
Val	Phe	Gly	Arg	Glu	Ala	Leu	Asn	Val	Ile	Ala	Cys	Glu	Gly	Trp	Glu
	290					295					300				
Arg	Val	Glu	Arg	Pro	Glu	Thr	Tyr	Lys	Gln	Trp	His	Val	Arg	Ala	Met
	305				310					315					320
Arg	Ser	Gly	Leu	Val	Gln	Val	Pro	Phe	Asp	Pro	Ser	Ile	Met	Lys	Thr
			325					330						335	
Ser	Leu	His	Lys	Val	His	Thr	Phe	Tyr	His	Lys	Asp	Phe	Val	Ile	Asp
			340					345					350		
Gln	Asp	Asn	Arg	Trp	Leu	Leu	Gln	Gly	Trp	Lys	Gly	Arg	Thr	Val	Met

370

375

380

<210> 115

<211> 352

<212> PRT

<213> Arabidopsis thaliana

<400> 115

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Leu Ser Met Val Asn Glu Leu Arg Gln Ile Val Ser Ile Gln Gly Asp
 1          5          10          15
Pro Ser Gln Arg Ile Ala Ala Tyr Met Val Glu Gly Leu Ala Ala Arg
      20          25          30
Met Ala Ala Ser Gly Lys Phe Ile Tyr Arg Ala Leu Lys Cys Lys Glu
      35          40          45
Pro Pro Ser Asp Glu Arg Leu Ala Ala Met Gln Val Leu Phe Glu Val
      50          55          60
Cys Pro Cys Phe Lys Phe Gly Phe Leu Ala Ala Asn Gly Ala Ile Leu
65          70          75          80
Glu Ala Ile Lys Gly Glu Glu Glu Val His Ile Ile Asp Phe Asp Ile
      85          90          95
Asn Gln Gly Asn Gln Tyr Met Thr Leu Ile Arg Ser Ile Ala Glu Leu
      100          105          110
Pro Gly Lys Arg Pro Arg Leu Arg Leu Thr Gly Ile Asp Asp Pro Glu
      115          120          125
Ser Val Gln Arg Ser Ile Gly Gly Leu Arg Ile Ile Gly Leu Arg Leu
      130          135          140
Glu Gln Leu Ala Glu Asp Asn Gly Val Ser Phe Lys Phe Lys Ala Met
145          150          155          160
Pro Ser Lys Thr Ser Ile Val Ser Pro Ser Thr Leu Gly Cys Lys Pro
      165          170          175
Gly Glu Thr Leu Ile Val Asn Phe Ala Phe Gln Leu His His Met Pro
      180          185          190
Asp Glu Ser Val Thr Thr Val Asn Gln Arg Asp Glu Leu Leu His Met
      195          200          205
Val Lys Ser Leu Asn Pro Lys Leu Val Thr Val Val Glu Gln Asp Val
      210          215          220
Asn Thr Asn Thr Ser Pro Phe Phe Pro Arg Phe Ile Glu Ala Tyr Glu
225          230          235          240
Tyr Tyr Ser Ala Val Phe Glu Ser Leu Asp Met Thr Leu Pro Arg Glu
      245          250          255
Ser Gln Glu Arg Met Asn Val Glu Arg Gln Cys Leu Ala Arg Asp Ile
      260          265          270
Val Asn Ile Val Ala Cys Glu Gly Glu Glu Arg Ile Glu Arg Tyr Glu
      275          280          285
Ala Ala Gly Lys Trp Arg Ala Arg Met Met Met Ala Gly Phe Asn Pro
      290          295          300
Lys Pro Met Ser Ala Lys Val Thr Asn Asn Ile Gln Asn Leu Ile Lys
305          310          315          320
Gln Gln Tyr Cys Asn Lys Tyr Lys Leu Lys Glu Glu Met Gly Glu Leu
      325          330          335
His Phe Cys Trp Glu Glu Lys Ser Leu Ile Val Ala Ser Ala Trp Arg
      340          345          350

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<210> 116

<211> 380

<212> PRT

<213> Arabidopsis thaliana

<400> 116

Thr	Ser	Val	Cys	Ser	Arg	Gln	Thr	Val	Met	Glu	Ile	Ala	Thr	Ala	Ile
1				5					10					15	
Ala	Glu	Gly	Lys	Thr	Glu	Ile	Ala	Thr	Glu	Ile	Leu	Ala	Arg	Val	Ser
			20					25					30		
Gln	Thr	Pro	Asn	Leu	Glu	Arg	Asn	Ser	Glu	Glu	Lys	Leu	Val	Asp	Phe
		35					40					45			
Met	Val	Ala	Ala	Leu	Arg	Ser	Arg	Ile	Ala	Ser	Pro	Val	Thr	Glu	Leu
	50					55					60				
Tyr	Gly	Lys	Glu	His	Leu	Ile	Ser	Thr	Gln	Leu	Tyr	Glu	Leu	Ser	
65					70					75				80	
Pro	Cys	Phe	Lys	Leu	Gly	Phe	Glu	Ala	Ala	Asn	Leu	Ala	Ile	Leu	Asp
				85					90					95	
Ala	Ala	Asp	Asn	Asn	Asp	Gly	Gly	Met	Met	Ile	Pro	His	Val	Ile	Asp
			100					105					110		
Phe	Asp	Ile	Gly	Glu	Gly	Gly	Gln	Tyr	Val	Asn	Leu	Leu	Arg	Thr	Leu
	115						120					125			
Ser	Thr	Arg	Arg	Asn	Gly	Lys	Ser	Gln	Ser	Gln	Asn	Ser	Pro	Val	Val
	130				135						140				
Lys	Ile	Thr	Ala	Val	Ala	Asn	Asn	Val	Tyr	Gly	Cys	Leu	Val	Asp	Asp
145					150					155				160	
Gly	Gly	Glu	Glu	Arg	Leu	Lys	Ala	Val	Gly	Asp	Leu	Leu	Ser	Gln	Leu
			165					170						175	
Gly	Asp	Arg	Leu	Gly	Ile	Ser	Val	Ser	Phe	Asn	Val	Val	Thr	Ser	Leu
			180					185					190		
Arg	Leu	Gly	Asp	Leu	Asn	Arg	Glu	Ser	Leu	Gly	Cys	Asp	Pro	Asp	Glu
	195						200					205			
Thr	Leu	Ala	Val	Asn	Leu	Ala	Phe	Lys	Leu	Tyr	Arg	Val	Pro	Asp	Glu
	210				215						220				
Ser	Val	Cys	Thr	Glu	Asn	Pro	Arg	Asp	Glu	Leu	Leu	Arg	Arg	Val	Lys
225					230					235					240
Gly	Leu	Lys	Pro	Arg	Val	Val	Thr	Leu	Val	Glu	Gln	Glu	Met	Asn	Ser
			245						250					255	
Asn	Thr	Ala	Pro	Phe	Leu	Gly	Arg	Val	Ser	Glu	Ser	Cys	Ala	Cys	Tyr
		260					265						270		
Gly	Ala	Leu	Leu	Glu	Ser	Val	Glu	Ser	Thr	Val	Pro	Ser	Thr	Asn	Ser
	275					280						285			
Asp	Arg	Ala	Lys	Val	Glu	Glu	Gly	Ile	Gly	Arg	Lys	Leu	Val	Asn	Ala
	290					295					300				
Val	Ala	Cys	Glu	Gly	Ile	Asp	Arg	Ile	Glu	Arg	Cys	Glu	Val	Phe	Gly
305					310					315					320
Lys	Trp	Arg	Met	Arg	Met	Ser	Met	Ala	Gly	Phe	Glu	Leu	Met	Pro	Leu
			325						330					335	
Ser	Glu	Lys	Ile	Ala	Glu	Ser	Met	Lys	Ser	Arg	Gly	Asn	Arg	Val	His
		340					345						350		
Pro	Gly	Phe	Thr	Val	Lys	Glu	Asp	Asn	Gly	Gly	Val	Cys	Phe	Gly	Trp
	355					360						365			
Met	Gly	Arg	Ala	Leu	Thr	Val	Ala	Ser	Ala	Trp	Arg				
	370					375					380				

<210> 117

<211> 374

<212> PRT

<213> Arabidopsis thaliana

<400> 117

Phe Asp Leu Glu Pro Pro Leu Leu Lys Ala Ile Tyr Asp Cys Ala Arg

1				5					10					15			
Ile	Ser	Asp	Ser	Asp	Pro	Asn	Glu	Ala	Ser	Lys	Thr	Leu	Leu	Gln	Ile		
			20					25					30				
Arg	Glu	Ser	Val	Ser	Glu	Leu	Gly	Asp	Pro	Thr	Glu	Arg	Val	Ala	Phe		
		35					40					45					
Tyr	Phe	Thr	Glu	Ala	Leu	Ser	Asn	Arg	Leu	Ser	Pro	Asn	Ser	Pro	Ala		
	50					55				60							
Thr	Ser	Ser	Ser	Ser	Ser	Ser	Thr	Glu	Asp	Leu	Ile	Leu	Ser	Tyr	Lys		
65					70				75						80		
Thr	Leu	Asn	Asp	Ala	Cys	Pro	Tyr	Ser	Lys	Phe	Ala	His	Leu	Thr	Ala		
			85					90						95			
Asn	Gln	Ala	Ile	Leu	Glu	Ala	Thr	Glu	Lys	Ser	Asn	Lys	Ile	His	Ile		
		100						105					110				
Val	Asp	Phe	Gly	Ile	Val	Gln	Gly	Ile	Gln	Trp	Pro	Ala	Leu	Leu	Gln		
	115						120					125					
Ala	Leu	Ala	Thr	Arg	Thr	Ser	Gly	Lys	Pro	Thr	Gln	Ile	Arg	Val	Ser		
	130				135					140							
Gly	Ile	Pro	Ala	Pro	Ser	Leu	Gly	Glu	Ser	Pro	Glu	Pro	Ser	Leu	Ile		
145					150				155						160		
Ala	Thr	Gly	Asn	Arg	Leu	Arg	Asp	Phe	Ala	Lys	Val	Leu	Asp	Leu	Asn		
			165					170						175			
Phe	Asp	Phe	Ile	Pro	Ile	Leu	Thr	Pro	Ile	His	Leu	Leu	Asn	Gly	Ser		
	180							185					190				
Ser	Phe	Arg	Val	Asp	Pro	Asp	Glu	Val	Leu	Ala	Val	Asn	Phe	Met	Leu		
	195						200					205					
Gln	Leu	Tyr	Lys	Leu	Leu	Asp	Glu	Thr	Pro	Thr	Ile	Val	Asp	Thr	Ala		
	210				215						220						
Leu	Arg	Leu	Ala	Lys	Ser	Leu	Asn	Pro	Arg	Val	Val	Thr	Leu	Gly	Glu		
225					230				235						240		
Tyr	Glu	Val	Ser	Leu	Asn	Arg	Val	Gly	Phe	Ala	Asn	Arg	Val	Lys	Asn		
			245					250						255			
Ala	Leu	Gln	Phe	Tyr	Ser	Ala	Val	Phe	Glu	Ser	Leu	Glu	Pro	Asn	Leu		
		260						265					270				
Gly	Arg	Asp	Ser	Glu	Glu	Arg	Val	Arg	Val	Glu	Arg	Glu	Leu	Phe	Gly		
	275						280					285					
Arg	Arg	Ile	Ser	Gly	Leu	Ile	Gly	Pro	Glu	Lys	Thr	Gly	Ile	His	Arg		
	290				295						300						
Glu	Arg	Met	Glu	Glu	Lys	Glu	Gln	Trp	Arg	Val	Leu	Met	Glu	Asn	Ala		
305					310				315						320		
Gly	Phe	Glu	Ser	Val	Lys	Leu	Ser	Asn	Tyr	Ala	Val	Ser	Gln	Ala	Lys		
			325					330						335			
Ile	Leu	Leu	Trp	Asn	Tyr	Asn	Tyr	Ser	Asn	Leu	Tyr	Ser	Ile	Val	Glu		
		340						345					350				
Ser	Lys	Pro	Gly	Phe	Ile	Ser	Leu	Ala	Trp	Asn	Asp	Leu	Pro	Leu	Leu		
	355						360					365					
Thr	Leu	Ser	Ser	Trp	Arg												
	370																

<210> 118

<211> 358

<212> PRT

<213> Arabidopsis thaliana

<400> 118

Gly	Pro	Val	Gly	Ile	Thr	Glu	Gln	Leu	Val	Lys	Ala	Ala	Glu	Val	Ile		
1				5				10					15				
Glu	Ser	Asp	Thr	Cys	Leu	Ala	Gln	Gly	Ile	Leu	Ala	Arg	Leu	Asn	Gln		
		20						25					30				

Gln Leu Ser Ser Pro Val Gly Lys Pro Leu Glu Arg Ala Ala Phe Tyr
 35 40 45
 Phe Lys Glu Ala Leu Asn Asn Leu Leu His Asn Val Ser Gln Thr Leu
 50 55 60
 Asn Pro Tyr Ser Leu Ile Phe Lys Ile Ala Ala Tyr Lys Ser Phe Ser
 65 70 75 80
 Glu Ile Ser Pro Val Leu Gln Phe Ala Asn Phe Thr Ser Asn Gln Ala
 85 90 95
 Leu Leu Glu Ser Phe His Gly Phe His Arg Leu His Ile Ile Asp Phe
 100 105 110
 Asp Ile Gly Tyr Gly Gly Gln Trp Ala Ser Leu Met Gln Glu Leu Val
 115 120 125
 Leu Arg Asp Asn Ala Ala Pro Leu Ser Leu Lys Ile Thr Val Phe Ala
 130 135 140
 Ser Pro Ala Asn His Asp Gln Leu Glu Leu Gly Phe Thr Gln Asp Asn
 145 150 155 160
 Leu Lys His Phe Ala Ser Glu Ile Asn Ile Ser Leu Asp Ile Gln Val
 165 170 175
 Leu Ser Leu Asp Leu Leu Gly Ser Ile Ser Trp Pro Asn Ser Ser Glu
 180 185 190
 Lys Glu Ala Val Ala Val Asn Ile Ser Ala Ala Ser Phe Ser His Leu
 195 200 205
 Pro Leu Val Leu Arg Phe Val Lys His Leu Ser Pro Thr Ile Ile Val
 210 215 220
 Cys Ser Asp Arg Gly Cys Glu Arg Thr Asp Leu Pro Phe Ser Gln Gln
 225 230 235 240
 Leu Ala His Ser Leu His Ser His Thr Ala Leu Phe Glu Ser Leu Asp
 245 250 255
 Ala Val Asn Ala Asn Leu Asp Ala Met Gln Lys Ile Glu Arg Phe Leu
 260 265 270
 Ile Gln Pro Glu Ile Glu Lys Leu Val Leu Asp Arg Ser Arg Pro Ile
 275 280 285
 Glu Arg Pro Met Met Thr Trp Gln Ala Met Phe Leu Gln Met Gly Phe
 290 295 300
 Ser Pro Val Thr His Ser Asn Phe Thr Glu Ser Gln Ala Glu Cys Leu
 305 310 315 320
 Val Gln Arg Thr Pro Val Arg Gly Phe His Val Glu Lys Lys His Asn
 325 330 335
 Ser Leu Leu Leu Cys Trp Gln Arg Thr Glu Leu Val Gly Val Ser Ala
 340 345 350
 Trp Arg Cys Arg Ser Ser
 355

<210> 119

<211> 369

<212> PRT

<213> Arabidopsis thaliana

<400> 119

Gly Gly Phe Gly Phe Ile Glu Asp Leu Ile Arg Val Val Asp Cys Val
 1 5 10 15
 Glu Ser Asp Glu Leu Gln Leu Ala Gln Val Val Leu Ser Arg Leu Asn
 20 25 30
 Gln Arg Leu Arg Ser Pro Ala Gly Arg Pro Leu Gln Arg Ala Ala Phe
 35 40 45
 Tyr Phe Lys Glu Ala Leu Gly Ser Phe Leu Thr Gly Ser Asn Arg Asn
 50 55 60
 Pro Ile Arg Leu Ser Ser Trp Ser Glu Ile Val Gln Arg Ile Arg Ala

65					70					75				80
Ile	Lys	Glu	Tyr	Ser	Gly	Ile	Ser	Pro	Ile	Pro	Leu	Phe	Ser	His
				85					90					95
Thr	Ala	Asn	Gln	Ala	Ile	Leu	Asp	Ser	Leu	Ser	Ser	Gln	Ser	Ser
			100					105					110	
Pro	Phe	Val	His	Val	Val	Asp	Phe	Glu	Ile	Gly	Phe	Gly	Gly	Gln
			115				120					125		Tyr
Ala	Ser	Leu	Met	Arg	Glu	Ile	Thr	Glu	Lys	Ser	Val	Ser	Gly	Gly
			130				135				140			Phe
Leu	Arg	Val	Thr	Ala	Val	Val	Ala	Glu	Glu	Cys	Ala	Val	Glu	Thr
145					150					155				160
Leu	Val	Lys	Glu	Asn	Leu	Thr	Gln	Phe	Ala	Ala	Glu	Met	Lys	Ile
				165					170					175
Phe	Gln	Ile	Glu	Phe	Val	Leu	Met	Lys	Thr	Phe	Glu	Met	Leu	Ser
			180					185					190	Phe
Lys	Ala	Ile	Arg	Phe	Val	Glu	Gly	Glu	Arg	Thr	Val	Val	Leu	Ile
			195				200					205		Ser
Pro	Ala	Ile	Phe	Arg	Arg	Leu	Ser	Gly	Ile	Thr	Asp	Phe	Val	Asn
			210			215					220			Asn
Leu	Arg	Arg	Val	Ser	Pro	Lys	Val	Val	Val	Phe	Val	Asp	Ser	Glu
225					230					235				Gly
Trp	Thr	Glu	Ile	Ala	Gly	Ser	Gly	Ser	Phe	Arg	Arg	Glu	Phe	Val
				245					250					Ser
Ala	Leu	Glu	Phe	Tyr	Thr	Met	Val	Leu	Glu	Ser	Leu	Asp	Ala	Ala
			260				265						270	Ala
Pro	Pro	Gly	Asp	Leu	Val	Lys	Lys	Ile	Val	Glu	Ala	Phe	Val	Leu
			275			280						285		Arg
Pro	Lys	Ile	Ser	Ala	Ala	Val	Glu	Thr	Ala	Ala	Asp	Arg	Arg	His
			290			295					300			Thr
Gly	Glu	Met	Thr	Trp	Arg	Glu	Ala	Phe	Cys	Ala	Ala	Gly	Met	Arg
305					310				315					Pro
Ile	Gln	Gln	Ser	Gln	Phe	Ala	Asp	Phe	Gln	Ala	Glu	Cys	Leu	Leu
				325					330					Glu
Lys	Ala	Gln	Val	Arg	Gly	Phe	His	Val	Ala	Lys	Arg	Gln	Gly	Glu
			340				345						350	Leu
Val	Leu	Cys	Trp	His	Gly	Arg	Ala	Leu	Val	Ala	Thr	Ser	Ala	Trp
		355					360					365		Arg

Phe

<210> 120

<211> 385

<212> PRT

<213> Arabidopsis thaliana

<400> 120

Ala	Gln	Asn	Leu	Leu	Ser	Ile	Leu	Ser	Leu	Asn	Ser	Ser	Pro	His	Gly
1				5					10					15	
Asp	Ser	Thr	Glu	Arg	Leu	Val	His	Leu	Phe	Thr	Lys	Ala	Leu	Ser	Val
			20					25					30		
Arg	Ile	Asn	Arg	Gln	Gln	Gln	Asp	Gln	Thr	Ala	Glu	Thr	Val	Ala	Thr
		35					40					45			
Trp	Thr	Thr	Asn	Glu	Met	Thr	Met	Ser	Asn	Ser	Thr	Val	Phe	Thr	Ser
		50				55					60				
Ser	Val	Cys	Lys	Glu	Gln	Phe	Leu	Phe	Arg	Thr	Lys	Asn	Asn	Asn	Ser
65					70				75						80
Asp	Phe	Glu	Ser	Cys	Tyr	Tyr	Leu	Trp	Leu	Asn	Gln	Leu	Thr	Pro	Phe
				85					90					95	
Ile	Arg	Phe	Gly	His	Leu	Thr	Ala	Asn	Gln	Ala	Ile	Leu	Asp	Ala	Thr

Ser	Met	Ser	Gln	Gly	Leu	Gln	Trp	Pro	Ala	Leu	Met	Gln	Ala	Leu	Ala
	115						120					125			
Leu	Arg	Pro	Gly	Gly	Pro	Pro	Val	Phe	Arg	Leu	Thr	Gly	Ile	Gly	Pro
	130						135				140				
Pro	Ala	Pro	Asp	Asn	Phe	Asp	Tyr	Leu	His	Glu	Val	Gly	Cys	Lys	Leu
	145				150					155					160
Ala	His	Leu	Ala	Glu	Ala	Ile	His	Val	Glu	Phe	Glu	Tyr	Arg	Gly	Phe
				165					170					175	
Val	Ala	Asn	Thr	Leu	Ala	Asp	Leu	Asp	Ala	Ser	Met	Leu	Glu	Leu	Arg
		180						185				190			
Pro	Ser	Glu	Ile	Glu	Ser	Val	Ala	Val	Asn	Ser	Val	Phe	Glu	Leu	His
	195						200					205			
Lys	Leu	Leu	Gly	Arg	Pro	Gly	Ala	Ile	Asp	Lys	Val	Leu	Gly	Val	Val
	210					215					220				
Asn	Gln	Ile	Lys	Pro	Glu	Ile	Phe	Thr	Val	Val	Glu	Gln	Glu	Ser	Asn
	225				230					235					240
His	Asn	Ser	Pro	Ile	Phe	Leu	Asp	Arg	Phe	Thr	Glu	Ser	Leu	His	Tyr
			245						250					255	
Tyr	Ser	Thr	Leu	Phe	Asp	Ser	Leu	Glu	Gly	Val	Pro	Ser	Gly	Gln	Asp
		260						265					270		
Lys	Val	Met	Ser	Glu	Val	Tyr	Leu	Gly	Lys	Gln	Ile	Cys	Asn	Val	Val
	275						280					285			
Ala	Cys	Asp	Gly	Pro	Asp	Arg	Val	Glu	Arg	His	Glu	Thr	Leu	Ser	Gln
	290					295					300				
Trp	Arg	Asn	Arg	Phe	Gly	Ser	Ala	Gly	Phe	Ala	Ala	Ala	His	Ile	Gly
	305				310					315					320
Ser	Asn	Ala	Phe	Lys	Gln	Ala	Ser	Met	Leu	Leu	Ala	Leu	Phe	Asn	Gly
			325						330					335	
Gly	Glu	Gly	Tyr	Arg	Val	Glu	Glu	Ser	Asp	Gly	Cys	Leu	Met	Leu	Gly
		340						345				350			
Trp	His	Thr	Arg	Pro	Leu	Ile	Ala	Thr	Ser	Ala	Trp	Lys	Leu	Ser	Thr
	355						360					365			

Asn

<210> 122

<211> 371

<212> PRT

<213> Arabidopsis thaliana

<400> 122

Asn	Gly	Val	Arg	Leu	Val	His	Ala	Leu	Met	Ala	Cys	Ala	Glu	Ala	Ile
1				5					10					15	
Gln	Gln	Asn	Asn	Leu	Thr	Leu	Ala	Glu	Ala	Leu	Val	Lys	Gln	Ile	Gly
		20						25				30			
Cys	Leu	Ala	Val	Ser	Gln	Ala	Gly	Ala	Met	Arg	Lys	Val	Ala	Thr	Tyr
	35						40				45				
Phe	Ala	Glu	Ala	Leu	Ala	Arg	Arg	Ile	Tyr	Arg	Leu	Ser	Pro	Pro	Gln
	50					55				60					
Asn	Gln	Ile	Asp	His	Cys	Leu	Ser	Asp	Thr	Leu	Gln	Met	His	Phe	Tyr
	65				70				75					80	
Glu	Thr	Cys	Pro	Tyr	Leu	Lys	Phe	Ala	His	Phe	Thr	Ala	Asn	Gln	Ala
			85					90					95		
Ile	Leu	Glu	Ala	Phe	Glu	Gly	Lys	Lys	Arg	Val	His	Val	Ile	Asp	Phe
		100					105					110			
Ser	Met	Asn	Gln	Gly	Leu	Gln	Trp	Pro	Ala	Leu	Met	Gln	Ala	Leu	Ala
	115						120					125			
Leu	Arg	Glu	Gly	Gly	Pro	Pro	Thr	Phe	Arg	Leu	Thr	Gly	Ile	Gly	Pro
	130					135					140				

Pro	Ala	Pro	Asp	Asn	Ser	Asp	His	Leu	His	Glu	Val	Gly	Cys	Lys	Leu
145					150					155					160
Ala	Gln	Leu	Ala	Glu	Ala	Ile	His	Val	Glu	Phe	Glu	Tyr	Arg	Gly	Phe
				165					170					175	
Val	Ala	Asn	Ser	Leu	Ala	Asp	Leu	Asp	Ala	Ser	Met	Leu	Glu	Leu	Arg
			180					185					190		
Pro	Ser	Asp	Thr	Glu	Ala	Val	Ala	Val	Asn	Ser	Val	Phe	Glu	Leu	His
		195					200					205			
Lys	Leu	Leu	Gly	Arg	Pro	Gly	Gly	Ile	Glu	Lys	Val	Leu	Gly	Val	Val
	210					215					220				
Lys	Gln	Ile	Lys	Pro	Val	Ile	Phe	Thr	Val	Val	Glu	Gln	Glu	Ser	Asn
225					230					235					240
His	Asn	Gly	Pro	Val	Phe	Leu	Asp	Arg	Phe	Thr	Glu	Ser	Leu	His	Tyr
				245					250					255	
Tyr	Ser	Thr	Leu	Phe	Asp	Ser	Leu	Glu	Gly	Val	Pro	Asn	Ser	Gln	Asp
			260					265					270		
Lys	Val	Met	Ser	Glu	Val	Tyr	Leu	Gly	Lys	Gln	Ile	Cys	Asn	Leu	Val
		275					280					285			
Ala	Cys	Glu	Gly	Pro	Asp	Arg	Val	Glu	Arg	His	Glu	Thr	Leu	Ser	Gln
	290					295					300				
Trp	Gly	Asn	Arg	Phe	Gly	Ser	Ser	Gly	Leu	Ala	Pro	Ala	His	Leu	Gly
305					310					315					320
Ser	Asn	Ala	Phe	Lys	Gln	Ala	Ser	Met	Leu	Leu	Ser	Val	Phe	Asn	Ser
				325					330					335	
Gly	Gln	Gly	Tyr	Arg	Val	Glu	Glu	Ser	Asn	Gly	Cys	Leu	Met	Leu	Gly
			340					345					350		
Trp	His	Thr	Arg	Pro	Leu	Ile	Thr	Thr	Ser	Ala	Trp	Lys	Leu	Ser	Thr
		355					360					365			
Ala	Ala	Tyr													
		370													

<210> 123

<211> 364

<212> PRT

<213> Arabidopsis thaliana

<400> 123

Thr	Gly	Val	Arg	Leu	Val	His	Ala	Leu	Leu	Ala	Cys	Ala	Glu	Ala	Val
1				5					10					15	
Gln	Gln	Asn	Asn	Leu	Lys	Leu	Ala	Asp	Ala	Leu	Val	Lys	His	Val	Gly
		20						25					30		
Leu	Leu	Ala	Ser	Ser	Gln	Ala	Gly	Ala	Met	Arg	Lys	Val	Ala	Thr	Tyr
		35					40					45			
Phe	Ala	Glu	Gly	Leu	Ala	Arg	Arg	Ile	Tyr	Arg	Ile	Tyr	Pro	Arg	Asp
	50					55				60					
Asp	Val	Ala	Ser	Ser	Ser	Phe	Ser	Asp	Thr	Leu	Gln	Ile	His	Phe	Tyr
65					70				75					80	
Glu	Ser	Cys	Pro	Tyr	Leu	Lys	Phe	Ala	His	Phe	Thr	Ala	Asn	Gln	Ala
				85					90					95	
Ile	Leu	Glu	Val	Phe	Ala	Thr	Ala	Glu	Lys	Val	His	Val	Ile	Asp	Leu
			100					105					110		
Gly	Leu	Asn	His	Gly	Leu	Gln	Trp	Pro	Ala	Leu	Ile	Gln	Ala	Leu	Ala
		115					120					125			
Leu	Arg	Pro	Asn	Gly	Pro	Pro	Asp	Phe	Arg	Leu	Thr	Gly	Ile	Gly	Tyr
	130					135					140				
Ser	Leu	Thr	Asp	Ile	Gln	Glu	Val	Gly	Trp	Lys	Leu	Gly	Gln	Leu	Ala
145					150					155					160
Ser	Thr	Ile	Gly	Val	Asn	Phe	Glu	Phe	Lys	Ser	Ile	Ala	Leu	Asn	Asn

				165					170					175			
Leu	Ser	Asp	Leu	Lys	Pro	Glu	Met	Leu	Asp	Ile	Arg	Pro	Gly	Leu	Glu		
			180						185					190			
Ser	Val	Ala	Val	Asn	Ser	Val	Phe	Glu	Leu	His	Arg	Leu	Leu	Ala	His		
			195				200						205				
Pro	Gly	Ser	Ile	Asp	Lys	Phe	Leu	Ser	Thr	Ile	Lys	Ser	Ile	Arg	Pro		
	210					215					220						
Asp	Ile	Met	Thr	Val	Val	Glu	Gln	Glu	Ala	Asn	His	Asn	Gly	Thr	Val		
	225				230					235					240		
Phe	Leu	Asp	Arg	Phe	Thr	Glu	Ser	Leu	His	Tyr	Tyr	Ser	Ser	Leu	Phe		
				245					250					255			
Asp	Ser	Leu	Glu	Gly	Pro	Pro	Ser	Gln	Asp	Arg	Val	Met	Ser	Glu	Leu		
			260					265					270				
Phe	Leu	Gly	Arg	Gln	Ile	Leu	Asn	Leu	Val	Ala	Cys	Glu	Gly	Glu	Asp		
		275				280						285					
Arg	Val	Glu	Arg	His	Glu	Thr	Leu	Asn	Gln	Trp	Arg	Asn	Arg	Phe	Gly		
	290				295					300							
Leu	Gly	Gly	Phe	Lys	Pro	Val	Ser	Ile	Gly	Ser	Asn	Ala	Tyr	Lys	Gln		
	305				310					315					320		
Ala	Ser	Met	Leu	Leu	Ala	Leu	Tyr	Ala	Gly	Ala	Asp	Gly	Tyr	Asn	Val		
				325					330					335			
Glu	Glu	Asn	Glu	Gly	Cys	Leu	Leu	Leu	Gly	Trp	Gln	Thr	Arg	Pro	Leu		
			340					345					350				
Ile	Ala	Thr	Ser	Ala	Trp	Arg	Ile	Asn	Arg	Val	Glu						
		355					360										

<210> 124

<211> 368

<212> PRT

<213> Arabidopsis thaliana

<400> 124

Glu	Gly	Leu	His	Leu	Leu	Thr	Leu	Leu	Leu	Gln	Cys	Ala	Glu	Ala	Val		
1				5					10					15			
Ser	Ala	Asp	Asn	Leu	Glu	Glu	Ala	Asn	Lys	Leu	Leu	Leu	Glu	Ile	Ser		
			20					25					30				
Gln	Leu	Ser	Thr	Pro	Tyr	Gly	Thr	Ser	Ala	Gln	Arg	Val	Ala	Ala	Tyr		
		35				40					45						
Phe	Ser	Glu	Ala	Met	Ser	Ala	Arg	Leu	Leu	Asn	Ser	Cys	Leu	Gly	Ile		
	50				55					60							
Tyr	Ala	Ala	Leu	Pro	Ser	Arg	Trp	Met	Pro	Gln	Thr	His	Ser	Leu	Lys		
	65			70					75					80			
Met	Val	Ser	Ala	Phe	Gln	Val	Phe	Asn	Gly	Ile	Ser	Pro	Leu	Val	Lys		
			85				90						95				
Phe	Ser	His	Phe	Thr	Ala	Asn	Gln	Ala	Ile	Gln	Glu	Ala	Phe	Glu	Lys		
		100				105						110					
Glu	Asp	Ser	Val	His	Ile	Ile	Asp	Leu	Asp	Ile	Met	Gln	Gly	Leu	Gln		
	115					120					125						
Trp	Pro	Gly	Leu	Phe	His	Ile	Leu	Ala	Ser	Arg	Pro	Gly	Gly	Pro	Pro		
	130				135					140							
His	Val	Arg	Leu	Thr	Gly	Leu	Gly	Thr	Ser	Met	Glu	Ala	Leu	Gln	Ala		
	145			150					155					160			
Thr	Gly	Lys	Arg	Leu	Ser	Asp	Phe	Ala	Asp	Lys	Leu	Gly	Leu	Pro	Phe		
			165				170						175				
Glu	Phe	Cys	Pro	Leu	Ala	Glu	Lys	Val	Gly	Asn	Leu	Asp	Thr	Glu	Arg		
		180				185						190					
Leu	Asn	Val	Arg	Lys	Arg	Glu	Ala	Val	Ala	Val	His	Trp	Leu	Gln	His		
		195				200						205					

Ser	Leu	Tyr	Asp	Val	Thr	Gly	Ser	Asp	Ala	His	Thr	Leu	Trp	Leu	Leu
210						215					220				
Gln	Arg	Leu	Ala	Pro	Lys	Val	Val	Thr	Val	Val	Glu	Gln	Asp	Leu	Ser
225					230					235					240
His	Ala	Gly	Ser	Phe	Leu	Gly	Arg	Phe	Val	Glu	Ala	Ile	His	Tyr	Tyr
				245					250					255	
Ser	Ala	Leu	Phe	Asp	Ser	Leu	Gly	Ala	Ser	Tyr	Gly	Glu	Glu	Ser	Glu
			260					265					270		
Glu	Arg	His	Val	Val	Glu	Gln	Gln	Leu	Leu	Ser	Lys	Glu	Ile	Arg	Asn
		275					280					285			
Val	Leu	Ala	Val	Gly	Gly	Pro	Ser	Arg	Ser	Gly	Glu	Val	Lys	Phe	Glu
290						295					300				
Ser	Trp	Arg	Glu	Lys	Met	Gln	Gln	Cys	Gly	Phe	Lys	Gly	Ile	Ser	Leu
305					310					315					320
Ala	Gly	Asn	Ala	Ala	Thr	Gln	Ala	Thr	Leu	Leu	Leu	Gly	Met	Phe	Pro
				325					330					335	
Ser	Asp	Gly	Tyr	Thr	Leu	Val	Asp	Asp	Asn	Gly	Thr	Leu	Lys	Leu	Gly
			340					345					350		
Trp	Lys	Asp	Leu	Ser	Leu	Leu	Thr	Ala	Ser	Ala	Trp	Thr	Pro	Arg	Ser
		355					360					365			

<210> 125

<211> 325

<212> PRT

<213> Arabidopsis thaliana

<400> 125

Ala	Met	Glu	Gly	Glu	Lys	Met	Val	His	Val	Ile	Asp	Leu	Asp	Ala	Ser
1				5					10					15	
Glu	Pro	Ala	Gln	Trp	Leu	Ala	Leu	Leu	Gln	Ala	Phe	Asn	Ser	Arg	Pro
			20					25					30		
Glu	Gly	Pro	Pro	His	Leu	Arg	Ile	Thr	Gly	Val	His	His	Gln	Lys	Glu
		35					40				45				
Val	Leu	Glu	Gln	Met	Ala	His	Arg	Leu	Ile	Glu	Glu	Ala	Glu	Lys	Leu
	50					55				60					
Asp	Ile	Pro	Phe	Gln	Phe	Asn	Pro	Val	Val	Ser	Arg	Leu	Asp	Cys	Leu
65					70				75					80	
Asn	Val	Glu	Gln	Leu	Arg	Val	Lys	Thr	Gly	Glu	Ala	Leu	Ala	Val	Ser
			85					90					95		
Ser	Val	Leu	Gln	Leu	His	Thr	Phe	Leu	Ala	Ser	Asp	Asp	Asp	Leu	Met
		100						105				110			
Arg	Lys	Asn	Cys	Ala	Leu	Arg	Phe	Gln	Asn	Asn	Pro	Ser	Gly	Val	Asp
		115					120				125				
Leu	Gln	Arg	Val	Leu	Met	Met	Ser	His	Gly	Ser	Ala	Ala	Glu	Ala	Arg
		130				135					140				
Glu	Asn	Asp	Met	Ser	Asn	Asn	Asn	Gly	Tyr	Ser	Pro	Ser	Gly	Asp	Ser
145					150				155					160	
Ala	Ser	Ser	Leu	Pro	Leu	Pro	Ser	Ser	Gly	Arg	Thr	Asp	Ser	Phe	Leu
			165					170					175		
Asn	Ala	Ile	Trp	Gly	Leu	Ser	Pro	Lys	Val	Met	Val	Val	Thr	Glu	Gln
		180						185					190		
Asp	Ser	Asp	His	Asn	Gly	Ser	Thr	Leu	Met	Glu	Arg	Leu	Leu	Glu	Ser
		195					200					205			
Leu	Tyr	Thr	Tyr	Ala	Ala	Leu	Phe	Asp	Cys	Leu	Glu	Thr	Lys	Val	Pro
	210					215					220				
Arg	Thr	Ser	Gln	Asp	Arg	Ile	Lys	Val	Glu	Lys	Met	Leu	Phe	Gly	Glu
225					230					235					240
Glu	Ile	Lys	Asn	Ile	Ile	Ser	Cys	Glu	Gly	Phe	Glu	Arg	Arg	Glu	Arg

				245					250				255			
His	Glu	Lys	Leu	Glu	Lys	Trp	Ser	Gln	Arg	Ile	Asp	Leu	Ala	Gly	Phe	
			260					265					270			
Gly	Asn	Val	Pro	Leu	Ser	Tyr	Tyr	Ala	Met	Leu	Gln	Ala	Arg	Arg	Leu	
		275					280					285				
Leu	Gln	Gly	Cys	Gly	Phe	Asp	Gly	Tyr	Arg	Ile	Lys	Glu	Glu	Ser	Gly	
	290					295					300					
Cys	Ala	Val	Ile	Cys	Trp	Gln	Asp	Arg	Pro	Leu	Tyr	Ser	Val	Ser	Ala	
305					310					315					320	
Trp	Arg	Cys	Arg	Lys												
				325												

<210> 126

<211> 248

<212> PRT

<213> Arabidopsis thaliana

<400> 126

Leu	Ala	Glu	Phe	Val	Asp	Leu	Thr	Pro	Trp	His	Arg	Phe	Gly	Phe	Ile	
1				5					10					15		
Ala	Ala	Asn	Ala	Ala	Ile	Leu	Asp	Ala	Val	Glu	Gly	Tyr	Ser	Ser	Val	
		20						25					30			
His	Ile	Val	Asp	Leu	Ser	Leu	Thr	His	Cys	Met	Gln	Ile	Pro	Thr	Leu	
		35					40					45				
Ile	Asp	Ser	Met	Ala	Asn	Lys	Leu	His	Lys	Lys	Pro	Pro	Pro	Leu	Leu	
	50					55					60					
Lys	Leu	Thr	Val	Ile	Ala	Ser	Asp	Ala	Glu	Phe	His	Pro	Pro	Pro	Leu	
65					70					75					80	
Leu	Gly	Ile	Ser	Tyr	Glu	Glu	Leu	Gly	Ser	Lys	Leu	Val	Asn	Phe	Ala	
			85					90					95			
Thr	Thr	Arg	Asn	Val	Ala	Met	Glu	Phe	Arg	Ile	Ile	Ser	Ser	Ser	Tyr	
			100					105					110			
Ser	Asp	Gly	Leu	Ser	Ser	Leu	Ile	Glu	Gln	Leu	Arg	Ile	Asp	Pro	Phe	
		115					120					125				
Val	Phe	Asn	Glu	Ala	Leu	Val	Val	Asn	Cys	His	Met	Met	Leu	His	Tyr	
	130					135					140					
Ile	Pro	Asp	Glu	Ile	Leu	Thr	Ser	Asn	Leu	Arg	Ser	Val	Phe	Leu	Lys	
145					150					155					160	
Glu	Leu	Arg	Asp	Leu	Asn	Pro	Thr	Ile	Val	Thr	Leu	Ile	Asp	Glu	Asp	
			165					170					175			
Ser	Asp	Phe	Thr	Ser	Thr	Asn	Val	Glu	Arg	Leu	Glu	Pro	Phe	Thr	Gly	
			180					185					190			
Val	Gly	Phe	Gly	Glu	Thr	Ala	Met	Thr	Glu	Val	Lys	Thr	Met	Leu	Glu	
		195					200					205				
Glu	His	Ala	Thr	Gly	Trp	Gly	Met	Lys	Lys	Asp	Val	Asp	Asp	Asp	Asn	
	210					215					220					
Asp	Val	Glu	Arg	Phe	Val	Leu	Thr	Trp	Lys	Gly	His	Ser	Val	Met	Phe	
225					230					235					240	
Ala	Ser	Ala	Trp	Ala	Pro	Pro	Asn									
				245												

<210> 127

<211> 284

<212> PRT

<213> Arabidopsis thaliana

<400> 127

Ala	Asn	Val	Glu	Ile	Leu	Glu	Ala	Ile	Ala	Gly	Glu	Thr	Arg	Val	His	
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1				5					10					15	
Ile	Ile	Asp	Phe	Gln	Ile	Ala	Gln	Gly	Ser	Gln	Tyr	Met	Phe	Leu	Ile
			20					25					30		
Gln	Glu	Leu	Ala	Lys	Arg	Pro	Gly	Gly	Pro	Pro	Leu	Leu	Arg	Val	Thr
		35					40					45			
Gly	Val	Asp	Asp	Ser	Gln	Ser	Thr	Tyr	Ala	Arg	Gly	Gly	Gly	Leu	Ser
	50					55					60				
Leu	Val	Gly	Glu	Arg	Leu	Ala	Thr	Leu	Ala	Gln	Ser	Cys	Gly	Val	Pro
65					70					75					80
Phe	Glu	Phe	His	Asp	Ala	Ile	Met	Ser	Gly	Cys	Lys	Val	Gln	Arg	Glu
			85						90					95	
His	Leu	Gly	Leu	Glu	Pro	Gly	Phe	Ala	Val	Val	Val	Asn	Phe	Pro	Tyr
		100						105					110		
Val	Leu	His	His	Met	Pro	Asp	Glu	Ser	Val	Ser	Val	Glu	Lys	Tyr	Arg
		115					120					125			
Asp	Arg	Leu	Leu	His	Leu	Ile	Lys	Ser	Leu	Ser	Pro	Lys	Leu	Val	Thr
	130					135					140				
Leu	Val	Glu	Gln	Glu	Ser	Asn	Thr	Asn	Thr	Ser	Pro	Leu	Val	Ser	Arg
145					150					155					160
Phe	Val	Glu	Thr	Leu	Asp	Tyr	Tyr	Thr	Ala	Met	Phe	Glu	Ser	Ile	Asp
			165						170					175	
Ala	Ala	Arg	Pro	Arg	Asp	Asp	Lys	Gln	Arg	Ile	Ser	Ala	Glu	Gln	His
		180						185					190		
Cys	Val	Ala	Arg	Asp	Ile	Val	Asn	Met	Ile	Ala	Cys	Glu	Glu	Ser	Glu
		195					200					205			
Arg	Val	Glu	Arg	His	Glu	Val	Leu	Gly	Lys	Trp	Arg	Val	Arg	Met	Met
	210					215					220				
Met	Ala	Gly	Phe	Thr	Gly	Trp	Pro	Val	Ser	Thr	Ser	Ala	Ala	Phe	Ala
225					230					235					240
Ala	Ser	Glu	Met	Leu	Lys	Ala	Tyr	Asp	Lys	Asn	Tyr	Lys	Leu	Gly	Gly
			245						250					255	
His	Glu	Gly	Ala	Leu	Tyr	Leu	Phe	Trp	Lys	Arg	Arg	Pro	Met	Ala	Thr
		260						265					270		
Cys	Ser	Val	Trp	Lys	Pro	Asn	Pro	Asn	Tyr	Ile	Gly				
		275					280								

<210> 128

<211> 294

<212> PRT

<213> Arabidopsis thaliana

<400> 128

Met	His	Ile	Leu	Tyr	Glu	Ala	Cys	Pro	Tyr	Phe	Lys	Phe	Gly	Tyr	Glu
1									10					15	
Ser	Ala	Asn	Gly	Ala	Ile	Ala	Glu	Ala	Val	Lys	Asn	Glu	Ser	Phe	Val
		20						25				30			
His	Ile	Ile	Asp	Phe	Gln	Ile	Ser	Gln	Gly	Gly	Gln	Trp	Val	Ser	Leu
		35					40					45			
Ile	Arg	Ala	Leu	Gly	Ala	Arg	Pro	Gly	Gly	Pro	Pro	Asn	Val	Arg	Ile
	50					55					60				
Thr	Gly	Ile	Asp	Asp	Pro	Arg	Ser	Ser	Phe	Ala	Arg	Gln	Gly	Gly	Leu
65					70					75					80
Glu	Leu	Val	Gly	Gln	Arg	Leu	Gly	Lys	Leu	Ala	Glu	Met	Cys	Gly	Val
				85					90					95	
Pro	Phe	Glu	Phe	His	Gly	Ala	Ala	Leu	Cys	Cys	Thr	Glu	Val	Glu	Ile
		100					105					110			
Glu	Lys	Leu	Gly	Val	Arg	Asn	Gly	Glu	Ala	Leu	Ala	Val	Asn	Phe	Pro
		115					120					125			

Leu	Val	Leu	His	His	Met	Pro	Asp	Glu	Ser	Val	Thr	Val	Glu	Asn	His
130						135					140				
Arg	Asp	Arg	Leu	Leu	Arg	Leu	Val	Lys	His	Leu	Ser	Pro	Asn	Val	Val
145					150					155					160
Thr	Leu	Val	Glu	Gln	Glu	Ala	Asn	Thr	Asn	Thr	Ala	Pro	Phe	Leu	Pro
				165					170						175
Arg	Phe	Val	Glu	Thr	Met	Asn	His	Tyr	Leu	Ala	Val	Phe	Glu	Ser	Ile
			180					185					190		
Asp	Val	Lys	Leu	Ala	Arg	Asp	His	Lys	Glu	Arg	Ile	Asn	Val	Glu	Gln
		195					200					205			
His	Cys	Leu	Ala	Arg	Glu	Val	Val	Asn	Leu	Ile	Ala	Cys	Glu	Gly	Val
	210					215					220				
Glu	Arg	Glu	Glu	Arg	His	Glu	Pro	Leu	Gly	Lys	Trp	Arg	Ser	Arg	Phe
225					230					235					240
His	Met	Ala	Gly	Phe	Lys	Pro	Tyr	Pro	Leu	Ser	Ser	Tyr	Val	Asn	Ala
				245					250						255
Thr	Ile	Lys	Gly	Leu	Leu	Glu	Ser	Tyr	Ser	Glu	Lys	Tyr	Thr	Leu	Glu
			260					265					270		
Glu	Arg	Asp	Gly	Ala	Leu	Tyr	Leu	Gly	Trp	Lys	Asn	Gln	Pro	Leu	Ile
		275					280					285			
Thr	Ser	Cys	Ala	Trp	Arg										
	290														

<210> 129
 <211> 205
 <212> PRT
 <213> Arabidopsis thaliana

<400> 129															
Lys	Lys	Trp	Glu	Thr	Ile	Thr	Leu	Asp	Glu	Leu	Met	Ile	Asn	Pro	Gly
1				5					10					15	
Glu	Thr	Thr	Val	Val	Asn	Cys	Ile	His	Arg	Leu	Gln	Tyr	Thr	Pro	Asp
			20					25					30		
Glu	Thr	Val	Ser	Leu	Asp	Ser	Pro	Arg	Asp	Thr	Val	Leu	Lys	Leu	Phe
		35					40					45			
Arg	Asp	Ile	Asn	Pro	Asp	Leu	Phe	Val	Phe	Ala	Glu	Ile	Asn	Gly	Met
	50					55					60				
Tyr	Asn	Ser	Pro	Phe	Phe	Met	Thr	Arg	Phe	Arg	Glu	Ala	Leu	Phe	His
65					70				75						80
Tyr	Ser	Ser	Leu	Phe	Asp	Met	Phe	Asp	Thr	Thr	Ile	His	Ala	Glu	Asp
				85					90					95	
Glu	Tyr	Lys	Asn	Arg	Ser	Leu	Leu	Glu	Arg	Glu	Leu	Leu	Val	Arg	Asp
		100						105					110		
Ala	Met	Ser	Val	Ile	Ser	Cys	Glu	Gly	Ala	Glu	Arg	Phe	Ala	Arg	Pro
		115					120					125			
Glu	Thr	Tyr	Lys	Gln	Trp	Arg	Val	Arg	Ile	Leu	Arg	Ala	Gly	Phe	Lys
		130				135						140			
Pro	Ala	Thr	Ile	Ser	Lys	Gln	Ile	Met	Lys	Glu	Ala	Lys	Glu	Ile	Val
145					150					155					160
Arg	Lys	Arg	Tyr	His	Arg	Asp	Phe	Val	Ile	Asp	Ser	Asp	Asn	Asn	Trp
				165					170						175
Met	Leu	Gln	Gly	Trp	Lys	Gly	Arg	Val	Ile	Tyr	Ala	Phe	Ser	Cys	Trp
			180					185					190		
Lys	Pro	Ala	Glu	Lys	Phe	Thr	Asn	Asn	Asn	Leu	Asn	Ile			
		195					200					205			

<210> 130
 <211> 158

<212> PRT
 <213> Arabidopsis thaliana

<400> 130

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Pro Asp Pro Val Gln Ser Asn Lys Leu Leu Asn Thr Val Lys Ala Ile
 1          5          10          15
Lys Pro Ser Ile Val Thr Val Val Glu Gln Glu Ala Asn His Asn Gly
          20          25          30
Ile Val Phe Leu Asp Arg Phe Asn Glu Ala Leu His Tyr Tyr Ser Ser
          35          40          45
Leu Phe Asp Ser Leu Glu Asp Ser Tyr Ser Leu Pro Ser Gln Asp Arg
          50          55          60
Val Met Ser Glu Val Tyr Leu Gly Arg Gln Ile Leu Asn Val Val Ala
65          70          75          80
Ala Glu Gly Ser Asp Arg Val Glu Arg His Glu Thr Ala Ala Gln Trp
          85          90          95
Arg Ile Arg Met Lys Ser Ala Gly Phe Asp Pro Ile His Leu Gly Ser
          100          105          110
Ser Ala Phe Lys Gln Ala Ser Met Leu Leu Ser Leu Tyr Ala Thr Gly
          115          120          125
Asp Gly Tyr Arg Val Glu Glu Asn Asp Gly Cys Leu Met Ile Gly Trp
          130          135          140
Gln Thr Arg Pro Leu Ile Thr Thr Ser Ala Trp Lys Leu Ala
145          150          155

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<210> 131
 <211> 112
 <212> PRT
 <213> Arabidopsis thaliana

<400> 131

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Ser Leu Glu Pro Asn Leu Asp Arg Asp Ser Lys Glu Arg Leu Arg Val
 1          5          10          15
Glu Arg Val Leu Phe Gly Arg Arg Ile Met Asp Leu Val Arg Ser Asp
          20          25          30
Asp Asp Asn Asn Lys Pro Gly Thr Arg Phe Gly Leu Met Glu Glu Lys
          35          40          45
Glu Gln Trp Arg Val Leu Met Glu Lys Ala Gly Phe Glu Pro Val Lys
          50          55          60
Pro Ser Asn Tyr Ala Val Ser Gln Ala Lys Leu Leu Leu Trp Asn Tyr
65          70          75          80
Asn Tyr Ser Thr Leu Tyr Ser Leu Val Glu Ser Glu Pro Gly Phe Ile
          85          90          95
Ser Leu Ala Trp Asn Asn Val Pro Leu Leu Thr Val Ser Ser Trp Arg
          100          105          110

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<210> 132
 <211> 77
 <212> PRT
 <213> Arabidopsis thaliana

<400> 132

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Ser Ser Val Leu Gln Leu His Thr Phe Leu Ala Ser Asp Asp Asp Leu
 1          5          10          15
Met Arg Lys Asn Cys Ala Leu Arg Phe His Asn Asn Pro Ser Gly Val
          20          25          30
Asp Leu Gln Arg Val Leu Met Met Ser His Gly Ser Ala Ala Glu Ala
          35          40          45

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Arg Glu Asn Asp Met Ser Asn Asn Asn Gly Tyr Ser Pro Ser Gly Asp
 50 55 60
 Ser Ala Ser Ser Leu Pro Leu Pro Ser Ser Gly Arg Thr
 65 70 75

<210> 133
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<220>
 <221> modified_base
 <222> 9, 12
 <223> n=i

<220>
 <221> modified_base
 <222> 21
 <223> n=a, c, g, or t

<400> 133
 cayttyacng cnaaycargc nat

23

<210> 134
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
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<400> 134
 His Phe Thr Ala Asn Gln Ala Ile
 1 5

<210> 135
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<220>
 <221> modified_base
 <222> 12
 <223> n=i

<220>
 <221> modified_base
 <222> 27
 <223> n=a, c, g, or t

<400> 135
 acgtctcgag tncayathat hgayttnga

29

<210> 136
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> sequence 135 amino acid translation

<220>
<221> SITE
<222> (6)
<223> Xaa=Leu or Phe

<400> 136
Val His Ile Ile Asp Xaa Asp
1 5

<210> 137
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<222> 3,12
<223> n=i

<220>
<221> modified_base
<222> 18
<223> n=a, c, g, or t

<400> 137
ytncartgyg cngargcngt

20

<210> 138
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> sequence 137 amino acid translation

<400> 138
Leu Gln Cys Ala Glu Ala Val
1 5

<210> 139
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<220>
<221> modified_base
<222> 12,15
<223> n=i

<220>
<221> modified_base
<222> 18,21
<223> n=a, c, g, or t

<400> 139
ckccmgtktg gnggnccncc ngg

23

<210> 140
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> sequence 139 amino acid translation

<220>
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<222> 6
<223> Xaa=His, Asn or Lys

<220>
<221> SITE
<222> 7
<223> Xaa=Val, Leu or Phe

<400> 140
Pro Gly Gly Pro Pro Xaa Xaa Arg
1 5

<210> 141
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<222> 3,12
<223> n=i

<220>
<221> modified_base
<222> 21
<223> n=a, c, g, or t

<400> 141
atnccrttra anacytgraa ngc

23

<210> 142
<211> 8

<212> PRT
<213> Artificial Sequence

<220>
<223> sequence 141 amino acid translation

<400> 142
Ala Phe Gln Val Phe Asn Gly Ile
1 5

<210> 143
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<220>
<221> modified_base
<222> 9,15
<223> n=i

<220>
<221> modified_base
<222> 12
<223> n=a, c, g, or t

<400> 143
atrtgraana rncnggccca ytg

23

<210> 144
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> sequence 143 amino acid translation

<400> 144
Gln Trp Pro Gly Leu Phe His Ile
1 5

<210> 145
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Arabidopsis GRAS alleles conserved motif

<400> 145
Val His Ile Ile Asp
1 5

<210> 146
<211> 3
<212> PRT

<213> Artificial Sequence

<220>

<223> Arabidopsis GRAS alleles conserved motif

<400> 146

Ser Ala Trp

1

<210> 147

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Arabidopsis GRAS alleles conserved motif

<400> 147

Pro Phe Tyr Arg Glu

1

5

<210> 148

<211> 76

<212> PRT

<213> Arabidopsis sp.

<400> 148

Ser Ser Val Leu Gln Leu His Thr Phe Leu Ala Ser Asp Asp Asp Leu
1 5 10 15
Met Arg Lys Asn Cys Ala Leu Arg Phe Asn Asn Pro Ser Gly Val Asp
20 25 30
Leu Gln Arg Val Leu Met Met Ser His Gly Ser Ala Ala Glu Ala Arg
35 40 45
Glu Asn Asp Met Ser Asn Asn Asn Gly Tyr Ser Pro Ser Gly Asp Ser
50 55 60
Ala Ser Ser Leu Pro Leu Pro Ser Ser Gly Arg Thr
65 70 75

<210> 149

<211> 424

<212> PRT

<213> Arabidopsis thaliana

<220>

<221> SITE

<222> 269

<223> Xaa = any amino acid

<400> 149

Asn Lys Arg Leu Lys Ser Cys Ser Ser Pro Asp Ser Met Val Thr Ser
1 5 10 15
Thr Ser Thr Gly Thr Gln Ile Gly Gly Val Ile Gly Thr Thr Val Thr
20 25 30
Thr Thr Thr Thr Thr Thr Thr Ala Ala Ala Glu Ser Thr Arg Ser Val
35 40 45
Ile Leu Val Asp Ser Gln Glu Asn Gly Val Arg Leu Val His Ala Leu
50 55 60
Met Ala Cys Ala Glu Ala Ile Gln Gln Asn Asn Leu Thr Leu Ala Glu

65					70					75				80
Ala	Leu	Val	Lys	Gln	Ile	Gly	Cys	Leu	Ala	Val	Ser	Gln	Ala	Gly
				85					90					95
Met	Arg	Lys	Val	Ala	Thr	Tyr	Phe	Ala	Glu	Ala	Leu	Ala	Arg	Ile
			100					105					110	
Tyr	Arg	Leu	Ser	Pro	Pro	Gln	Asn	Gln	Ile	Asp	His	Cys	Leu	Ser
		115					120					125		
Thr	Leu	Gln	Met	His	Phe	Tyr	Glu	Thr	Cys	Pro	Tyr	Leu	Lys	Phe
		130					135				140			
His	Phe	Thr	Ala	Asn	Gln	Ala	Ile	Leu	Glu	Ala	Phe	Glu	Gly	Lys
145					150					155				160
Arg	Val	His	Val	Ile	Asp	Phe	Ser	Met	Asn	Gln	Gly	Leu	Gln	Trp
				165					170					175
Ala	Leu	Met	Gln	Ala	Leu	Ala	Leu	Arg	Glu	Gly	Gly	Pro	Pro	Thr
			180					185					190	
Arg	Leu	Thr	Gly	Ile	Gly	Pro	Pro	Ala	Pro	Asp	Asn	Ser	Asp	His
		195					200					205		Leu
His	Glu	Val	Gly	Cys	Lys	Leu	Ala	Gln	Leu	Ala	Glu	Ala	Ile	His
	210					215					220			Val
Glu	Phe	Glu	Tyr	Arg	Gly	Phe	Val	Ala	Asn	Ser	Leu	Ala	Asp	Leu
225					230					235				240
Ala	Ser	Met	Leu	Glu	Leu	Arg	Pro	Ser	Asp	Thr	Glu	Ala	Val	Ala
				245					250					255
Asn	Ser	Val	Phe	Glu	Leu	His	Lys	Leu	Leu	Gly	Arg	Xaa	Gly	Ile
			260					265					270	
Glu	Lys	Val	Leu	Gly	Val	Val	Asn	Gln	Ile	Lys	Glu	Pro	Glu	Ile
	275						280					285		Phe
Thr	Val	Val	Glu	Gln	Glu	Ser	Asn	His	Asn	Ser	Pro	Ile	Phe	Asp
	290					295					300			Arg
Phe	Thr	Glu	Ser	Leu	His	Tyr	Tyr	Ser	Thr	Leu	Phe	Asp	Ser	Leu
305					310					315				Glu
Gly	Val	Pro	Ser	Gly	Gln	Asp	Lys	Val	Met	Ser	Glu	Val	Tyr	Leu
				325					330					Gly
Lys	Gln	Ile	Cys	Asn	Val	Val	Ala	Cys	Asp	Gly	Pro	Asp	Arg	Val
			340					345					350	Glu
Arg	His	Glu	Thr	Leu	Ser	Gln	Trp	Arg	Asn	Arg	Phe	Gly	Ser	Ala
	355						360					365		Gly
Phe	Ala	Ala	Ala	His	Ile	Gly	Ser	Asn	Ala	Phe	Lys	Gln	Ala	Ser
	370					375					380			Met
Leu	Leu	Ala	Leu	Phe	Asn	Gly	Gly	Glu	Gly	Tyr	Arg	Val	Glu	Glu
385					390					395				Ser
Asp	Gly	Cys	Leu	Met	Leu	Gly	Trp	His	Thr	Arg	Pro	Leu	Ile	Ala
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<212> PRT

<213> Arabidopsis thaliana

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			20					25					30		
Val	Val	Leu	Val	Asp	Ser	Gln	Glu	Asn	Gly	Val	Arg	Leu	Val	His	Ala
		35					40					45			
Leu	Leu	Ala	Cys	Ala	Glu	Ala	Val	Gln	Lys	Glu	Asn	Leu	Thr	Val	Ala

50					55					60					
Val	Gln	Asn	Arg	His	Val	Glu	Ser	Glu	Asn	Met	Leu	Asn	Ser	Leu	Arg
65					70					75					80
Glu	Leu	Glu	Lys	Gln	Leu	Leu	Asp	Asp	Asp	Asp	Glu	Ser	Gly	Gly	Asp
				85					90					95	
Asp	Asp	Val	Ser	Val	Ile	Thr	Asn	Ser	Asn	Ser	Asp	Trp	Ile	Gln	Asn
			100					105					110		
Leu	Val	Thr	Pro	Asn	Pro	Asn	Pro	Asn	Pro	Val	Leu	Ser	Phe	Ser	Pro
			115					120					125		
Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Pro	Ser	Thr	Ala	Ser	Thr	Thr	Thr
			130					135					140		
Ser	Val	Cys	Ser	Arg	Gln	Thr	Val	Met	Glu	Ile	Ala	Thr	Ala	Ile	Ala
145					150					155					160
Glu	Gly	Lys	Thr	Glu	Ile	Ala	Thr	Glu	Ile	Leu	Ala	Arg	Val	Ser	Gln
				165					170						175
Thr	Pro	Asn	Leu	Glu	Arg	Asn	Ser	Glu	Glu	Lys	Leu	Val	Asp	Phe	Arg
			180					185					190		
Asn	Ser	Glu	Glu	Lys	Leu	Val	Asp	Phe	Met	Val	Ala	Ala	Leu	Arg	Ser
			195				200						205		
Arg	Ile	Ala	Ser	Pro	Val	Thr	Glu	Leu	Tyr	Gly	Lys	Glu	His	Leu	Ile
			210				215						220		
Ser	Thr	Gln	Leu	Leu	Tyr	Glu	Leu	Ser	Pro	Cys	Phe	Lys	Leu	Gly	Phe
225					230					235					240
Glu	Ala	Ala	Asn	Leu	Ala	Ile	Leu	Asp	Ala	Ala	Asp	Asn	Asn	Asp	Gly
			245						250					255	
Gly	Met	Met	Ile	Pro	His	Val	Ile	Asp	Phe	Asp	Ile	Gly	Glu	Gly	Gly
			260					265						270	
Gln	Tyr	Val	Asn	Leu	Leu	Arg	Thr	Leu	Ser	Thr	Arg	Arg	Asn	Gly	Lys
			275				280						285		
Ser	Gln	Ser	Gln	Asn	Ser	Pro	Val	Val	Lys	Ile	Thr	Ala	Val	Ala	Asn
			290			295					300				
Asn	Tyr	Gly	Asp	Cys	Leu	Val	Asp	Asp	Gly	Gly	Glu	Glu	Arg	Leu	Lys
305					310					315					320
Ala	Val	Gly	Asp	Leu	Leu	Ser	Gln	Leu	Gly	Asp	His	Ser	Ile	Ser	Val
			325						330					335	
Ser	Phe	Asn	Val	Val	Thr	Ser	Leu	Arg	Leu	Gly	Asp	Leu	Asn	Arg	Glu
			340					345					350		
Ser	Leu	Gly	Cys	Asp	Pro	Asp	Glu	Thr	Leu	Ala	Val	Asn	Leu	Ala	Phe
			355				360					365			
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His Phe Ser Ser Ile Phe Asp Met Leu Glu Thr Ile Val Pro Arg Glu

